

**PRE-EMPT**  
**(PRE-EVENT MESSAGE PREPARATION FOR TERRORISM)**

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**FORMATIVE RESEARCH AND EVALUATION OF  
BOTULISM MESSAGES & MATERIALS**

Prepared for:

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## TABLE OF CONTENTS

	<u>Page</u>
Executive Summary .....	v
<b>I. PROJECT OVERVIEW</b> .....	<b>1</b>
A. Background.....	1
B. The Collaborative Process .....	2
C. Botulism Report Overview .....	3
<b>II. METHODOLOGY</b> .....	<b>4</b>
A. Study Aims and Design.....	4
B. Study Constructs .....	4
C. Data Collection .....	6
1. Focus Group Guides .....	6
<i>a. Botulism Focus Group Guide</i>	
<i>b. Botulism Pre-Test Material</i>	
2. Subject Recruitment .....	8
3. General Focus Group Procedures.....	8
4. Protection of Human Research Subjects.....	8
D. Data Analysis.....	9
1. Coding .....	9
2. Issues of Coding Reliability.....	10
3. Issues of Validity.....	10
<b>III. RESULTS</b> .....	<b>12</b>
A. Demographics .....	12
B. Focus Group Findings for the General Public .....	15
1. Pre-Event Knowledge.....	15
<i>a. Color Alert System</i>	
<i>b. Protection of Self from Attack</i>	
<i>c. Meaning of Categories of Terrorism Agents</i>	

2. Response to Hypothetical Attack .....	19
<i>a. Emotional Response</i>	
<i>b. Knowledge and Beliefs</i>	
<i>c. Actions</i>	
<i>d. Information Seeking - What People Want to Know</i>	
<i>e. Information Seeking - Where People Want to Get Information</i>	
3. Materials Pre-Testing .....	31
<i>a. Comprehension of Materials</i>	
i. Overall Comprehension	
ii. Additional Information Needed	
iii. Risk perception	
<i>b. Emotional Response</i>	
<i>c. Credibility/Believability</i>	
<i>d. Self-Efficacy</i>	
<i>e. Recommendations</i>	
i. Writing Style and Content	
ii. Formatting	
iii. Dissemination of Information	
4. Perceptions .....	46
<i>a. Government</i>	
<i>b. Media</i>	
<i>c. First Responders</i>	
<i>d. Health and Human Service Providers</i>	
C. Focus Group Findings for Public Health Professionals .....	50
1. Pre-Event Knowledge .....	50
<i>a. Protection of Self from Attack</i>	
<i>b. Meaning of Bioterrorism</i>	
2. Response to Hypothetical Attack .....	52
<i>a. Emotional Response</i>	
<i>b. Knowledge and Beliefs</i>	
<i>c. Information Seeking and Providing</i>	

3. Materials Pre-Testing .....	56
<i>a. Comprehension and General Recommendations for Improvement of Materials</i>	
<i>b. Emotional Response</i>	
<i>c. Self-Efficacy</i>	
<b>IV. DISCUSSION</b> .....	61
A. General Discussion .....	61
B. Study Limitations .....	65
<b>V. RECOMMENDATIONS</b> .....	66
A. Organization of Botulism Message Materials .....	66
B. Content of Botulism Message Materials .....	66
C. Message Language and Formatting.....	67
D. Message Material Formats .....	67
<b>VI. REFERENCES</b> .....	68
<b>VII. APPENDICES</b> .....	69
A. Botulism Creative Brief.....	70
B. Pre-tested Botulism Materials.....	75
C. Botulism Focus Group Guides .....	82
1. Public .....	82
2. Professional .....	86
D. Individual Focus Group Reports.....	89
1. UCLA Urban Hispanic .....	89
2. UCLA ESL.....	94
3. UCLA Asian Urban.....	98
4. SLU Urban African American .....	102
5. SLU Urban Caucasian .....	112
6. SLU Rural Caucasian .....	123
7. UAB Front Line Public Health .....	130
8. UAB Rural African American .....	143

9. UOK American Indian.....	151
10. UOK First Responders.....	156
E. Overall Project Demographics .....	161
F. Coding Guides .....	162
1. Public .....	162
2. Professional.....	165

## EXECUTIVE SUMMARY

In an effort to develop comprehensive bioterrorism preparedness educational messages for the general public, the Centers for Disease Control and Prevention (CDC) and the Association of the Schools of Public Health (ASPH) funded four universities to conduct formative research on health messages created by the CDC. The UCLA Center for Public Health and Disasters and the Health and Media Research Group spearheaded the research on preparedness educational materials about botulism. The two specific aims of the research were 1) to obtain insight into the general public's current knowledge, attitudes, and potential responses to terrorist threats, and 2) to pre-test botulism specific informational materials developed by the CDC.

During May through August 2003, 11 botulism focus groups were conducted with 93 individuals of various ethnic/racial backgrounds from across the United States, using a standardized focus group guide developed by the team of researchers. These guides consisted of questions about the national color alert system, knowledge and attitudes about hypothetical terrorist attacks, behavioral intents following an attack, and perceptions and recommendations for making botulism preparedness and response messages more accurate and responsive to the needs of the general public.

The following are general key findings from the botulism focus groups:

1. The National Color Alert System. The color alert system was generally perceived by participants as providing minimal information and having little practical value for the general public.
2. General Knowledge. Focus group participants had little knowledge about botulism symptoms, treatment, transmission, or prevention strategies, but were interested in learning.
3. Behavioral Intent. Participants wanted to know specifically what they could do to protect themselves and their loved ones.
4. Perceptions of CDC. The CDC was perceived as a credible source of information in public health emergencies, with participants expressing less trust of the media and of local elected government officials.
5. Messages. Participants expressed a need for clear, concise, and actionable messages available in a number of different languages.
6. Message Dissemination. The majority of participants reported they would turn to the broadcast media (television and radio) and the Internet for information at the onset of an

event. Many also said that over the course of the event they would get information from a variety of sources, including professional and community-based organizations in their neighborhoods.

Based on the focus group results, we recommend having four “sets” of botulism materials, one each for food borne, infant, wound, and deliberate release (bioterrorism). The following are our recommendations regarding the development of message materials for the general public on a deliberate release of botulism toxin or a bioterrorism event:

- ♦ Initial Key Messages. In case of an event, initial key messages should address:
  - ✧ seriousness and “location” of the threat
  - ✧ symptom recognition of botulism toxicity for adults and infants
  - ✧ potential means of exposure
  - ✧ what to do if exposed, or if symptoms of toxicity are present
  - ✧ protective actions to take to prevent exposure to self and others
- ♦ Treatment and Outcomes. Messages should be available about treatment efficacy and outcomes. Key messages within this set should address diagnostic procedures, treatment goals and means, treatment availability, and recovery.
- ♦ Botulism. Another group of messages should facilitate understanding of botulism and transmission, including potential methods of dissemination, routes of exposure, dose response time, etc; in other words, the epidemiology.
- ♦ Response System. Finally, there should be messages providing information on system level responses, credible sources of information, and ways to access these resources (i.e. website addresses and 800/toll-free numbers).

We also strongly recommend having messages in multiple formats so as to reach the widest audience possible, keeping in mind that key messages need to be kept consistent across the different media used. Messages may take the form of fact sheets, television video news releases, radio news releases, and/or interactive multimedia for a website. For some of these formats, it may be appropriate to use a journalistic or documentary style. Using simple, non-technical language whenever possible as well as including graphics and pictures is also strongly recommended. Messages need to be informational, without being too dense or complex. Overall, message materials should take into account general lack of familiarity with the topic of botulism as well as issues of low literacy and non-English speaking populations.

## **I. PROJECT OVERVIEW**

### **A. Background**

The very real threat of terrorist action requires the design, development, and dissemination of technically accurate and timely information. Recognizing this, the Centers for Disease Control and Prevention, in concert with the Association of Schools of Public Health (ASPH) Bioterrorism Council, responded by supporting the “Pre-Event Message Development Project” (PEMD). This project provides funding to four primary schools of public health (St. Louis University, University of Alabama-Birmingham, University of California at Los Angeles, and the University of Oklahoma) along with several partnering schools. The charge to the team was to develop and evaluate pre-event messages for the general population and selected segments of health professionals regarding how persons may best protect themselves, their families, and their communities. The four university programs serving in primary roles were selected due to the special strengths and expertise each could bring to the overall project goal of developing pre-event messages that can be disseminated through a variety of channels. These messages relay critical information related to what audiences want as well as the information that the research team, CDC, and the ASPH Bioterrorism Council, recognize as needs to be known.

The first year of the project involved audience testing of informational materials and messages in the focus areas of biological, chemical, and radiological events. Within each of these broad areas, we focused on specific agents (i.e. plague, botulism, VX and blasts involving radiological materials). The three specific aims of the testing were 1) to obtain insight into the general public’s current knowledge, attitudes, and potential responses to terrorist threats; 2) to determine what the public wants and needs to know as it relates to specific types of terrorism agents and events; and 3) to pre-test agent-specific informational materials developed by the CDC. To achieve these three aims, qualitative research methods were employed and focus group interviews were conducted with diverse groups of individuals from across the United States.

Content and message structure of the tested materials varied across focus areas and audiences (general population and health workers). Most of the materials were in the form of fact sheets and “Frequently Asked Questions” developed by the CDC. It should be noted that, in general, these materials were not specifically designed for the audiences in which they were tested. The

project's primary target audience was the general population, including non-English speaking and minority population segments. Additionally, materials were tested with selected sectors of the emergency health workforce, such as first responders and frontline public health workers. The results from the first year focus group interviews are being used to guide Year 2 activities: the expert review process of message content and structure, development of messaging formats for a variety of dissemination channels, and testing of messages and delivery formats developed for specific target audiences.

## **B. The Collaborative Process**

Collaboration has been the key to completing Year 1 project activities. Since its inception, the PEMD project has been carried out as a collective endeavor, with input and effort from the four collaborators as well as from others, including colleagues at the CDC. This consensus-based approach has taken the shape of mutually agreed upon goals, methods and measures, as well as shared effort. From the first meetings, collaborators agreed to the benefits of a common approach. One benefit was that common tasks could be divided up among the partners. More significantly, however, was the opportunity for building scale into the project. Greater confidence in the validity and generalizeability of the findings would come from using a standardized focus group methodology to conduct fifty focus groups, as opposed to just ten.

The accomplishment of specific benchmarks in the work plan, such as the development of the focus group discussion guide, took place more or less as follows. The conceptual framework for the focus groups was laid out in broad strokes at the first two meetings of collaborators. St. Louis University (SLU) took the lead in drafting the conceptual framework and preparing the first draft set of questions based on the framework. The partners reviewed the draft, and shared their comments in a conference call. SLU revised the guide and again submitted the draft for review. Final revisions were made after a final round of reviews, and collaborators approved the result in a conference call. At that point, we moved forward with preparation of protocol for ethical review, and commenced the research itself.

A team approach such as this can be time-consuming, especially when participants are located in five or more locations spread across four time zones. The *modus operandi*, consequently, has called for weekly conference calls and periodic (quarterly) in-person meetings. The meetings are

necessary to reach agreement on decisions of consequence, such as preparation of work plans. The calls keep work moving forward. Typically, one school will take the lead on a particular task, but the final version is the one agreed to by all. The pace of the consensus building process has become faster with time, as basic elements have fallen into place. For example, much of the project relies on the conceptual framework. Once the difficult work of achieving consensus on the framework was accomplished, later elements were easier to complete. All key deliverables in the project have benefited from this approach, including the coding guide for the analysis; the preliminary presentations of results in September 2003, and the renewal application for the project.

### **C. Botulism Report Overview**

The following report, submitted by the University of California at Los Angeles (UCLA), details the results from the focus group interviews conducted on C. Botulinum, otherwise known as botulism. First, the report provides a complete description of the methodology used by the collaborative group to collect and analyze the focus group data. This section also includes information on the specific interview guides and materials used in the groups. The next section of the report details findings from focus groups conducted with segments of the general public. Findings include participants' pre-event knowledge, response to a hypothetical terrorist attack involving botulism, and feedback on the botulism informational materials, including recommendations for improvement. Findings also include the participants' perceptions of the government, the media, and others potentially involved in responding to a terrorist attack. After findings from the general public focus groups are presented, findings from the emergency health workforce groups are described. Overall study findings are discussed in Section IV, and the report concludes with recommendations for future message development and dissemination as they relate specifically to botulism and more generally to any terrorism event involving biological, chemical, or radiological agents.

## **II. METHODOLOGY**

### **A. Study Aims and Design**

The primary aims of the Year 1 project activities were 1) to obtain insight into the general public's current knowledge, attitudes, and potential responses to terrorist threats; 2) to determine what the public wants and needs to know as it relates to specific types of terrorism agents and events; and 3) to pre-test agent-specific informational materials developed by the CDC. To achieve these aims, focus group interviews were conducted to answer formative research questions and to pre-test informational materials. Focus group interviews have become an important means of collecting data to address message and campaign creation, and were chosen for this study because they could be done relatively quickly yet still capture opinions and sentiments of selected groups or segments within a population.

Fifty-five focus group interviews were conducted with two primary audiences: the general public and selected segments of the emergency health workforce. In order to explore potential differences based on demographic and cultural factors, the two primary audiences were divided into subgroups. The general public audiences were grouped by race/ethnicity (African American, Hispanic, Caucasian, Asian, and Native American) or language (English as a Second Language [ESL]). The African American, Hispanic, and Caucasian groups were subdivided further into rural and urban groups. The health workforce groups were subdivided into frontline public health workers (e.g. epidemiologists, nurses, laboratory technicians, environmental health specialists, and community health workers) and first responders (e.g. fire fighters, emergency medical technicians [EMTs] and police). Table 1 provides details on the number of groups conducted by target audience, agent, and university partner.

### **B. Study Constructs**

The purpose of conducting these 55 focus groups was to better define the constructs that could help guide future message development, refinement and dissemination. Table 2 describes the constructs examined in the formative research (knowledge, attitudes, behaviors, and perceived information needs) and the materials pre-testing (comprehension, emotional response, believability, self-efficacy, and recommendations for improvement) sections of the project.

<b>Table 1: Focus groups conducted by each PEMD partner university, listed by target audience and agent</b>					
<b>Target Audience</b>	<b>Agent</b>				
	<b># of groups</b>	<b>Biological (Botulism)</b>	<b>Biological (Plague)</b>	<b>Radiological</b>	<b>Chemical (VX)</b>
Urban African Americans	7	SLU	SLU, UAB	SLU, UAB	SLU, UAB
Rural African Americans	4	UAB	SLU	UAB	SLU
Urban Hispanics	7	UCLA	UAB, UCLA	UAB, UOK	UAB, UOK
Rural Hispanics	4	UOK <sup>1</sup>	UOK	UOK	UCLA
Urban Caucasians	7	SLU	SLU, UCLA	UCLA, UOK	SLU, UCLA
Rural Caucasians	4	SLU	SLU	UOK	SLU
Urban Asians	4	UCLA	UCLA	UCLA	UCLA
English as a Second Language	4	UCLA	UCLA	UCLA	UCLA
Native American	4	UOK	UOK	UOK	UOK
First Responders	5	UOK	SLU	UAB, UOK	SLU
Frontline Public Health Workers	5	UAB	UAB	UAB, UOK	UAB
<b>Total # of groups</b>	<b>55</b>	<b>11</b>	<b>14</b>	<b>16</b>	<b>14</b>
<sup>1</sup> Data from this rural Hispanic group on botulism was not available for analysis and thus are not included in this report.					

<b>Table 2: Constructs studied in each primary target audience</b>	
<b>Frontline public health workers and first responders</b>	<b>General public</b>
Formative research: <ul style="list-style-type: none"> <li>Professional and public information needs</li> <li>Professional and public information seeking behavior</li> <li>Preferred channels for terrorism information dissemination</li> </ul> Materials pre-testing: <ul style="list-style-type: none"> <li>Comprehension</li> <li>Emotional response</li> <li>Believability</li> <li>Intention to use materials</li> <li>Recommendations for improvement</li> </ul>	Formative research: <ul style="list-style-type: none"> <li>Pre-event knowledge, attitudes and response</li> <li>General knowledge about different threats</li> <li>Confidence in the government and public health response to a potential attack</li> <li>Terrorism information needs</li> <li>Terrorism information seeking behavior</li> </ul> Materials pre-testing: <ul style="list-style-type: none"> <li>Comprehension</li> <li>Emotional response</li> <li>Believability</li> <li>Self-efficacy and response-efficacy intention to follow advice</li> <li>Recommendations for improvement</li> </ul>

## **C. Data Collection**

### 1. Focus Group Guides

The data collection tool was comprised of sets of open-ended questions (focus group guide) designed to elicit information pertinent to the constructs outlined in Table 2. Once developed, the basic focus group guides for the general public and for the health worker groups were customized to include agent specific scenarios and informational materials. As noted before, development of the guides was a collaborative effort between UCLA, the University of Alabama, University of Oklahoma, and St. Louis University.

The basic structure of the focus group guide for the general public included the following sections:

1. Introduction and icebreaker
2. Current knowledge and attitudes about the national color alert system and different types of terrorist threats
3. Three part scenario rollout based on specific type of agent - radiological, chemical (VX), or biological (plague or botulism)
4. Confidence in the government's ability to respond to a terrorist event of the type described
5. Participant review of agent-specific educational materials/information that might be disseminated in the event of an attack

The focus group guide for the health professionals was similar in structure, but included additional elements. Participants were asked to comment on their understanding of various scientific concepts. They were also asked to assess the scenarios on behalf of the public; the focus group guide questions elicited participants' professional opinions of what the public should know as well as what the health workers needed to know in order to inform the public.

Reactions to the pre-testing materials also probed the workers' personal impressions as well as how suitable they thought the materials were for the general public.

#### *a. Botulism Focus Group Guide*

The focus group guide for botulism followed the basic structure detailed above. Additional elements included a description of symptoms produced by the toxin, as well as agent-specific

response activities. The three stages of the botulism scenario are described below. Copies of the full botulism focus group guides are in Appendix C.

**Scenario, Part 1:**

You wake up about 7 am on a Tuesday and turn on the local news to hear that President Bush has raised the Homeland Security Advisory System threat level to severe (red). The president and his advisors report that this change in the national threat level is based on knowledge of a credible threat that a terrorist group may be planning a biological attack in «Los Angeles». Officials suspect that the attack may involve a biological weapon.

**Scenario, Part 2:**

A week later, early on a Monday afternoon, you turn on the radio and hear that 15 people in «Los Angeles» have presented at local emergency rooms and doctors' offices with blurry vision, heavy eyelids, difficulty speaking and swallowing, weakness, and facial paralysis. Although the cause has not been confirmed, these symptoms are consistent with botulism. Botulism is a toxin that affects the central nervous system and is spread through food and water.

**Scenario, Part 3:**

Later that same day, you turn on your TV to find that a local government official has issued a statement. She confirms that there has been a deliberate release of a biological toxin in «Los Angeles» and the agent has been confirmed to be botulism. It was believed to have been released through a food source still under investigation. So far, there are 30 presumed cases, however more persons in «Los Angeles» are potentially poisoned. Local health workers and emergency personnel are working to contain the problem by continuing the investigation outbreak, administering antitoxin, and providing supportive therapy for those infected.

*b. Botulism Pre-Test Material*

The material pre-tested in the botulism focus groups was a set of “Frequently Asked Questions” about botulism taken from the CDC website. The CDC logo and name were removed for pre-testing purposes and group participants were not informed of the source of the material until after the pre-testing was completed. The seven-page document included sections on transmission, symptoms, prevention, diagnosis, and clinical management. A copy of this material is in Appendix B.

## 2. Subject Recruitment

Focus group participants were drawn from a convenience sample of persons from each target population. Each university used established community and professional contacts or existing databases to derive a sample of pre-defined groups, race/ethnicity for the general public and specific job categories for the health worker groups. Within these groups, various recruitment strategies were used to obtain diversity on factors such as age, SES, and gender.

Monetary incentives were used to help increase interest and participation in the study. Each focus group member received a small amount of cash or a gift certificate for taking part in the group. Exceptions were made for health professionals who were not allowed to accept compensation.

## 3. General Focus Group Procedures

Focus groups were conducted at times and places convenient for the participants and designated by the recruiters, usually at the site of the collaborating organization. The groups were led by moderators trained to guide discussions in non-directive and non-judgmental ways, and to elicit responses from all participants. Total time for each focus group was approximately 1½ - 2 hours. Focus groups were professionally audio taped, and tapes were transcribed for analysis.

## 4. Protection of Human Research Subjects

To ensure the protection of the research subjects involved in this study, each university prepared and submitted protocols, consent forms and informational packets under the guidelines of their institutional review board (IRB). Upon approval from their IRB, each institution provided a copy of the approval letter to the funding agency.

Numerous measures were put in place to ensure that all research participants were protected. For example, only adults (individuals who had attained the legal age for consent under the applicable law in the state in which the focus groups were conducted) were considered for participation in focus groups. Children were excluded from the study. Also, as part of the focus group introductions, the focus group moderator reviewed issues related to confidentiality and risks/benefits of participation. Participants were told that their involvement was voluntary and that they had the option to choose not to complete the study or any part of it, without penalty or

loss of benefits to which they are otherwise entitled. They were told that the materials they were to review and discuss were potentially distressing and that they had the option to choose not to participate in any part of the discussion, to leave the group temporarily, or to terminate participation completely. Upon request, they would be given the name and telephone number of a mental health clinician. An informed consent document was signed by and/or an information sheet given to each participant before the group began.

## **D. Data Analysis**

### **1. Coding**

The coding analysis process was generated from 1) literature on the theory of the Cultural Construction of Realities, 2) literature of Grounded Theory, and 3) code domains identified in collaboration with participating universities, CDC, and ASPH (Glaser & Strauss, 1967; Strauss & Corbin, 1996). As Miles and Huberman (1994) note, the coding process is simultaneous data collection, method, and analysis (Miles & Huberman, 1994). Consequently, code categories are not simply convenient labels facilitating text retrieval; they are crucial data leading to an auditable trail of findings (Strauss & Corbin, 1994; Miles & Huberman, 1994). In this study, “code categories” are referred to as “domains.”

Botulism focus group transcripts for both public and professional groups were entered into Atlas, a software program designed to assist with qualitative data analysis, and were coded using the coding protocol developed by the overall project group (see Appendix F). Coding proceeded from macro domains to smaller units of coded material. Coding and recoding were completed when all portions of the focus group experiences were classified, domains were “saturated,” and common themes emerged (Straus & Corbin, 1994). Each botulism transcript was coded by at least two researchers.

Thematic analysis is a process which encodes qualitative information; therefore, themes are generated as the coding proceeds. Research relevant statements were extracted from each interview, coded, and analyzed for meanings. These meanings were clustered into themes which could be analyzed across focus groups (Morse, 1994). Themes elicited for each focus group were presented in the Top Line Summary Reports. These summary reports were presented to the

partner universities for utilization in the crafting of final topic specific Creative Briefs for designated content areas, and for assisting with the writing of final focus group reports.

It is important to note that frequency of the response is only one aspect of identification of themes. The significance of meaning as judged by the nature of the subject's discourse could mean that something less frequently mentioned could also represent a theme, provided, for example, that it is mentioned with great emphasis (Valle, 1989).

## 2. Issues of Coding Reliability

The coding of transcripts proceeded from the first coding of the manuscript to a process known as "check-coding" in which 1) two researchers code the same data set and coding difficulties or disagreements are discovered and/or 2) one researcher codes the data set and repeats the process on an identical un-coded manuscripts several days later. The process of check-coding increases definitional clarity and validates reliability, and is also an assessment of internal consistency in individual coders (Miles and Huberman, 1994).

For the botulism transcripts, each was coded by two persons and coded segments were compared to assess consistency across coders (inter-rater reliability). Coders discussed and resolved the inconsistencies and a third coded transcript was generated to reflect the outcomes of these coding checks. Reliability of results was also confirmed by a process of cross-group validation in which themes were compared, and similarities noted. It is notable that cross-group reliability was also achieved in this research.

## 3. Issues of Validity

Validity is the degree to which the research measures what it is supposed to measure. Krueger (1994) states that the use of focus groups in qualitative research is valid if the focus groups are used carefully for a problem that is amenable to focus group inquiry. The validity depends upon the context in which it is used and the procedures followed in the conduction of the groups (Krueger, 1994). Focus groups are particularly valuable prior to initiating a social marketing campaign for the purpose of addressing designated population groups.

In order to ensure validity, findings must be grounded in the focus group data, inferences made from the data must be logical, analytic strategies must be applied correctly, and alternative

explanations must be accounted for (Schwandt & Halpern, 1988). Ideally, the research should have the possibility of being replicated by other investigators. “Transparency” of method addresses the issue of clarity of data and procedures such that the study may indeed be replicated at a later date (Miles & Huberman, 1994). In this study, issues of internal validity were addressed through the development of constructs and analysis methods based on relevant literature and theory, the use of standardized protocols and procedures, and the process of cross-group validation.

External validity in this study is limited in that the findings cannot be generalized to the entire U.S. population. They can, however, be generalized to the populations that were accessed for the focus group participants. Therefore, it is felt that the research contains important and valid information that may be of value to the CDC and ASPH in the crafting of pre-event messages addressing the issues extant in the realities of bioterrorist activity, especially in regard to targeted special populations.

### III. RESULTS

#### A. Demographics

Eleven botulism focus groups were conducted between May 29<sup>th</sup> and August 27<sup>th</sup> of 2003, one in each of the study's target audiences. Between four and 16 persons participated in each group, with 108 focus group participants in total. However, it should be noted that the results presented in this report do not include demographic data or focus group findings from the Rural Hispanic group as the transcript from this focus group was not available at the time of analysis. Therefore, this report is based on findings from 10 focus groups and 93 individuals. Table 3 provides details on the focus groups conducted by each of the participating universities.

<b>Table 3: Botulism focus groups (11 groups, 108 participants)</b>			
<b>Target Audience</b>	<b># in Group</b>	<b>University</b>	<b>Notes &amp; Comments</b>
Urban African Americans	10	SLU	
Rural African Americans	7	UAB	
Urban Hispanics	9	UCLA	
Rural Hispanics	15	UOK	Transcript for this focus group was not available at the time of analysis, so findings are not included in this report
Urban Asians	16	UCLA	Asian/Pacific Islanders, over half who speak Tagalog or Filipino as primary language
Urban Caucasians	10	SLU	
Rural Caucasians	4	SLU	
Native Americans	10	UOK	
English as a second language speakers	14	UCLA	Latinos/Hispanics, Asian/ Pacific Islanders, and others who speak Spanish, Chinese, Korean, Japanese, Portuguese, or Persian
<b>Subtotal</b>	<b>95</b>		
First responders	9	UOK	EMTs
Frontline public health workers	4	UAB	
<b>Subtotal</b>	<b>13</b>		

In the botulism group sample (n=93), ages ranged from 17 to 91 years, with a mean age of approximately 48 years. Thirty-eight percent of the focus group participants were male and 62% were female. Approximately half of the participants, 52%, were married or living with a partner. Eighteen percent reported being single; 12% divorced or separated; and 17% widowed. A majority of the sample, 78%, reported having children, but only 46% had children under the age of 18 years.

African Americans, Asians, and Caucasians made up approximately one-quarter each of the sample. The sample was also comprised of Hispanics, 17%, and American Indians, 10%. The majority of participants, 67%, spoke English in their homes. Fifteen percent reported Spanish as their primary language at home. The other participants reported speaking another language or a combination of English and another language at home. These languages included: Tagalog, Filipino, Chinese, Korean, Japanese, Portuguese, and Persian.

Sixty-three percent of participants had a high school education or better, with 40% reporting having completed a college or graduate degree. Only 36% of the sample reported being currently employed. Examples of occupations most often listed included housewife (13), student (4), and teacher (4). Fourteen participants indicated that they were retired. In addition to members of the paramedic/EMT group, two participants indicated they were healthcare workers. Approximately half of the sample, 53%, reported a family income for 2002 of less than \$30,000.

The demographic characteristics for the botulism groups were very similar to the groups for the overall project. Table 4 presents the demographic data distributions for both the botulism sub-sample and the project sample.

<b>Table 4: Demographic characteristics of participants – All groups v/s Botulism groups.</b>			
<b>Characteristic</b>	<b>Category</b>	<b>All groups (N=520)</b>	<b>Botulism groups (N=93)</b>
Age	Range	17 – 91 years	19 – 91 years
	Mean / SD	43.66 / 16.14	47.52 / 16.62
	Missing	7%	7%
Sex	Male	43%	38%
	Female	57%	62%
	Missing	<1%	-
Education	Less than high school	8%	8%
	Some high school	8%	16%
	High school diploma or GED	16%	15%
	Some college	25%	23%
	College degree	20%	25%
	Graduate degree	11%	13%
	Missing	11%	1%
Ethnicity/race	African American/Black	21%	22%
	American Indian/Alaska Native	9%	10%
	Asian/Pacific Islander	12%	23%
	Caucasian/White	28%	27%
	Latino/Hispanic	26%	17%
	Other	2%	2%
	Missing	3%	-
Language in home	English	69%	67%
	Spanish	17%	15%
	Bilingual/English & Other	6%	6%
	Other	7%	12%
	Missing	1%	-
Marital status	Single	26%	18%
	Married or living with partner	46%	52%
	Divorced or separated	11%	12%
	Widowed	6%	17%
	Missing	11%	1%
Children	Yes	65%	78%
	No	29%	20%
	Missing	6%	2%
Currently Employed	Yes	60%	36%
	No	33%	60%
	Missing	7%	4%
Family income	Less than \$10,000	14%	22%
	\$10,000-\$19,999	17%	19%
	\$20,000-\$29,999	11%	12%
	\$30,000-\$39,999	8%	8%
	\$40,000-\$49,999	6%	9%
	\$50,000-\$59,999	6%	6%
	\$60,000-\$69,999	5%	1%
	\$70,000-\$79,999	2%	3%
	\$80,000-\$89,999	2%	-
	\$90,000-\$99,999	2%	-
	\$100,000 or more	6%	3%
	Missing	20%	17%
<sup>1</sup> The rural Hispanic botulism group is not included in these numbers as the focus group transcript was not available for inclusion in the analysis.			

## **B. Focus Group Findings for the General Public**

### 1. Pre-Event Knowledge

#### *a. Color Alert System*

Awareness of the color alert system was generally high among respondents in all of the botulism focus groups. Respondents were most likely to mention yellow, orange and red categories as having the most intrinsic meaning.

Attitudes toward the color alert system, on the other hand, were more varied and ranged from very positive to very negative. On the positive end of the spectrum, persons felt grateful that such a system existed, and appreciated the need to be prepared. As a rural respondent declared:

“[E]ven if it is not in your area, it is something to be alert, because everybody is going to be alert; because they don’t want any possibility that, you know, that somebody may sneak into this place.” (*Rural African American*)

On the negative side, two attitudes predominated. One group of persons questioned the timeliness and truthfulness of the alert system as evidenced in the following quotations:

“[T]elevision is a good example of that. Because we’re not getting the maximum truth that we should be getting..... by the time we get it, you know, it’s already happened, or it’s going to happen. That’s just like this red alert you were talking about.” (*American Indian*)

“[T]hey’ve got so many intelligence people... That’s why the common guy out here in the world, you’re going to get blown away before you even know. They may know it in Washington, D. C., but you’re not going to know it down on this level..... because if they did, if they advertised it on TV ... then everybody gets scared... they’d go hysterical, and they might panic, and there would be chaos. ...you couldn’t advertise it on TV.” (*American Indian*)

“...and sometimes it is a possibility that if they have a red alert, it can be false.” (*Rural African American*)

The second major area of concern had to do with the lack of actionable steps linked to the color alert system. Even if the color alert system created more concern among persons, for the most part it didn’t provide any information as to specific actions individuals could take. However, there may also be some over-reaction among some individuals as a few persons in both urban

and rural settings seemed to interpret the alerts as meaning that persons were not to go outside or to work.

“According to the color alert. What do we do? If this is yellow, be aware. If I heard that it is higher, then I wear a mask. I don’t go out, not even to work.”  
(*Urban Hispanic*)

Another issue that came up in regards to the color alert system was that of desensitization to it, especially since it is a national alert and not specific to an area or location.

“Uh, sometimes it depends on the way you get information. Sometimes (they) try to scare you a little. My personal opinion, ...I think you have to live your life normally, except if you see something real, that you think is out of order or something really suspicious.” (*ESL*)

“[I]f it happens, it happens. I’ve got to live. You’ve got to live one day at a time. I mean, I don’t walk around and dwell on it. I mean I worry about it, ‘cause I mean it could happen. But I mean, when it happens, it happens.”  
(*American Indian*)

Finally, it should be noted that rural residents were also concerned about potential terrorist threats, even though many thought that there is a low likelihood that attacks would be carried out in rural areas.

“...where we are looking for it to happen in a major city. Because they are looking in these looking country towns, we can get something growing here, we can get something going. Just as well, the may be looking to hit Washington again, or New York again, or Florida whether the NASA space ship goes off, but that might not be the target area, it might be just like a little place like right here in this state.” (*Rural African American*)

“It could be the same all over the country whether here or California on a high alert. Things don’t just happen in California.” (*Rural African American*)

“...Because I feel like when they do come to attack it’s going to be in the bigger towns, the bigger cities. So what’s going to happen to the people out in the little towns, like us, what are we going to do? Will we have more of a chance of preparing ourselves than those that are already hit?” (*American Indian*)

*b. Protection of Self from Attack*

General awareness of protective behaviors for disasters and emergencies was moderate among focus group respondents. In addition to the usual admonitions to stock up on food, water, first aid kits and basic supplies, other self-protective measures mentioned were to lock doors, be alert for strangers, and stay away from crowds. There was concern, however, that essential knowledge to protect oneself in an attack was lacking. In some individuals, the response was one of helplessness, or the notion that if an attack came there wouldn't be that much that one could do.

There appeared to be some misperceptions about what it means to "shelter in place." The concept of "shelter in place" was mainly perceived as having access to underground shelters, similar to bomb shelters or bunkers. In general, for participants "shelter in place" did not mean staying inside at home, at work, or wherever the individual happened to be when the event occurred.

Few respondents took the duct tape issue very seriously; with most agreeing that it would not protect one from a chemical or nuclear attack. Participants did not understand in what type of attack duct tape would be useful and/or exactly what the duct tape could potentially protect individuals from.

Gas masks were mentioned by some as one of the things that one could obtain as a protective measure. As one person from an urban area noted:

"Have your stuff for emergency; food and water, gas masks and some protective clothing. You can buy it at the army supply surplus." (*Urban Asian*)

However, for others and particularly among rural populations, gas masks were seen to be a commodity either in short supply or not readily accessible:

"I mean you know, do this, do that, do this. You'd have to have an avenue which...like gas masks and all this chemical warfare stuff, these suits and all this stuff. Where you going to find it here in ...Oklahoma?" (*American Indian*)

Finally, a concern voiced a number of times was the need for knowledge about potential attacks. Participants mainly stated that they would get information about an attack from the news media,

whether local television or radio. Other sources of information mentioned were newspapers, the internet, the library, and first responders. Also noted was the need to stay informed through various news channels, and the importance of having readily accessible knowledge, both before and during the attack, regarding the type of agent or vector used.

*c. Meaning of Categories of Terrorism Agents*

Persons interviewed had varied perceptions of what a biological attack might consist of. The most consistently mentioned biological agent was anthrax, and clearly perceptions about it had been formed by the outbreak in late 2001. As one person noted:

“A biological attack is something that we can get in the mail, in a letter that contains some kind of powder, right? It is like a biological attack.” (*Urban Hispanic*)

Other biological agents mentioned were smallpox, bacteria and viruses, SARS, West Nile Virus, salmonella and food contamination. Discussed at great length were the different modes of transmission such as through person-to-person contact, food, water, air, shared needles, and blood contact. However, different diseases mentioned were not linked to their specific transmission modalities in these discussions. Neither plague nor botulism were spontaneously mentioned, evidence that persons are not particularly aware of the major biological threats that could be used in a terrorist event, at least as currently defined by the CDC and other governmental agencies.

Chemical agents were defined mainly as gas attacks and were perceived as very dangerous. The Japan subway attack stimulated one person to suggest that chemical attacks were both possible and potentially deadly. Events in Afghanistan also stimulated some commentary.

“It’s very hard to prepare for a chemical attack like that just because they can carry it in very small containers. Like what happened in Japan years ago, they just released the agent inside of the (subway), you know the train...I think a lot of people died during that time.” (*Urban Asian*)

“...like gas that would be turned loose. And they did say something about Afgans gassing each other, But there is no place in this state where they have those types of bunkers, nothing you can survive with; so the only thing they are saying is about putting the plastic up at your window and get to one room.” (*Rural African American*)

Many different chemical scenarios were described by the groups. Examples of scenarios mentioned included dropping chemicals from planes, creating explosions and dust clouds, spraying it in a liquid form, and putting it in the food and water supply. Most generally, persons associated chemical attacks with skin problems and poisoning.

Radiological or nuclear threats seemed to evoke the most terror among focus group participants. Defined as caused by bombs, dirty bombs, and explosions, this threat was seen by most interviewed as the most deadly, and as putting the biggest numbers of persons at risk. Nuclear attacks were equated with total destruction, death of many, and painful lingering deaths among those exposed to radiation. As one person said:

“Something like radiation, it slowly kills you... It is something that gets into your skin and slowly takes you. So, you know, the same thing the radiation does for cancer, it kills off the unclean cells as well as the clean cells, the good cells. So it slowly does that over a period of time.” (*Rural African American*)

A number of respondents suggested that there was nothing to be done in the event of a nuclear attack. There was also a lot of concern based on media portrayals that bringing nuclear devices into America and setting them off was possible. Again, most participants didn't think that they would receive enough advanced warning to adequately protect themselves from a nuclear attack.

“I watched a movie called the Sum of Fears.... and when that atomic bomb that I guess that went off and how they brought it over into the country so it could have more effect on it. People that [was] around they [wasn't] notified, they didn't even expected that something was in the country ... so they would take charge to get into shelter or anything like that. And from that particular movie, a lot of people got killed, and they didn't show the number of people but they showed some...” (*Rural African American*)

## 2. Response to Hypothetical Attack

The next sets of responses are based on participants' reactions to increasingly detailed accounts of a hypothetical botulism outbreak in the communities in which focus groups were being held. The focus groups enlisted responses based on emotional reaction, knowledge needed, and information seeking behavior. The analysis not only looks at the types of responses generated overall, but also whether there was a qualitative shift in the nature of the response for the different stages of the scenario. First, the scenario describes announcement of an unspecified

threat, then a series of cases that present at a local medical facility, and finally identification of a botulism outbreak linked to a deliberately contaminated food source.

*a. Emotional Response*

A large range of emotional responses were voiced during the initial stage of the scenario that involved announcement of a credible terrorism threat to use a biological weapon in the area where the group participants live. The most common emotional responses were fear, anxiety, distress, nervousness, and helplessness. Concerns were voiced about children and their well-being, as well as about parents. A commonly voiced theme was the fear that the stress of not knowing much about the situation would cause the participants or others to panic. Some thoughts on this issue were:

“I would panic. Because the first thing I would think of is what am I going to do with kids? Where am I going to put them? Where am I going to take them? You know, what’s going to happen to them?” (*American Indian*)

“I think there is going to be a big panic. Nobody is going to really think, when it comes down to something like this, I mean really.” (*Rural African American*)

Other concerns that surfaced were for persons who did not understand English. A number of persons also said that they would feel a need for prayer in these circumstances.

As the second part of the scenario rolled out in which 15 affected persons had been identified and botulism spread through food or water was the suspected agent, fear among group participants seemed to intensify. Participants also expressed sadness and empathy for the victims. While participants were grateful for what information they had gotten, not knowing everything about the event made persons edgy and concerned. As one participant noted:

“You need more information ....You need to know the connecting elements between them. If there is no connecting element then that’s when you are going to start seeing a little bit more concern.” (*Rural Caucasian*)

Others noted that this type of announcement had an impact on everyone in the community and the onus of protection shifted to individuals. That is, as it became clear that the agent was carried by food or water, individuals had to change their consumption patterns to protect themselves.

After the final part of the scenario was disclosed in which the type (botulism) but not the exact source of the toxin was confirmed, respondents noted that some of their fears were allayed. This was both because the type of illness was confirmed and because claims were made that authorities were working to resolve the issues. As two individuals remarked:

“Well it’s different. When I hear this information, I feel nervous. The second one is another [worst] making me nervous. But right now it’s a little clear.”  
(*ESL*)

“I feel kind of good though that they are giving information about the people’s situation. (*Urban African American*)

Others had different reactions and said they still needed to know more, such as what foods were contaminated, how they could protect themselves, and that an outbreak investigation was going on, before they could relax. In one such response it was said:

“You would like to know where it was situated. Now, all these people that are getting sick, are they all in one area? If they are in one area, if the food is coming from these stores there, if it’s coming from other places; because you don’t know what to eat or where to get it. And you would be very concerned about it.” (*Urban Caucasian*)

#### *b. Knowledge and Beliefs*

Generally, knowledge about botulism among those in the focus groups was limited. Therefore, beliefs and knowledge expressed during the focus groups seemed tentative at best. After the first scenario was read, persons interviewed speculated that increased surveillance since 9/11/2001 has made the United States safer. As well, many persons expressed the belief that if another terrorist event happened, systems are now in place so that there would be information, hotlines, tip sheets and other public communication services to address public questions and concerns.

Some participants worried about the veracity of information transmitted by the news media. And others gave vent to some degree of paranoia about persons releasing contaminants or chemicals into the environment. Specifically, lack of information or a vacuum seemed to give rise to

speculative thinking with regards to who would be responsible for an attack. It can also give rise to racism and prejudice, as noted in the following quotation:

“Well if it was TV as you said, I’d probably be on my way to work. . . . . If I ran into some Puerto Rican looking, Iranian looking man, then I’d have to really give them a good look. You know? If they’re out of place, they don’t fit (here). I’d really give them a good look. What are they carrying, what are they driving?” (*American Indian*)

By the rollout of the second stage of the scenario, emotional arousal was concurrent with the expression of a number of beliefs about the general event. A few persons made the connection between a number of persons becoming ill, eating contaminated food, and an outbreak investigation as voiced in the following comments:

“[T]hey should know at least what those people ate and they should be able to narrow it down. If all of them had some type of seafood, that is narrowing it down, and tell the people not to eat seafood.” (*Rural African American*)

“And find out what area those fifteen people came from. (Group agrees) Let’s say, this county is a pretty large county, so you know it covers a whole lot of territory; so find out what areas did those fifteen peoples come from to see how wide-spread is that particular toxin that they have received. And then maybe they went to the same restaurant, , all got this particular food or bought it from the same grocery store; so you will know if that particular area where they bought the food from.” (*Rural African American*)

Not much was discussed about botulism specifically, except that it is transmitted by contaminated food and water. There was some confusion over whether it is a communicable disease, like the recent SARS outbreak. Still others thought perhaps that botulism could be spread through an airborne transmission route or through deliberate actions towards canned goods. There was some talk about deficiencies in the canning of food products that could lead to botulism, as seen in these comments:

“It could be from a can, it could have been from a canned food. n?” (*Rural African American*)

“Botulism, that is what it is, and it says it is a toxin. Ok, so where would the toxin come from.” (*Rural African American*)

At this point, too, there was a general recognition that persons in the community needed to change some behaviors around food and water consumption, although it was not clear what could really be done until the investigation had been completed.

During this second stage of the scenario, some discussion of symptoms did occur, as well as brief reference to the botulism anti-toxin. However, participants were not clear about symptoms, what treatment entails, or treatment availability and accessibility.

By the third stage of the scenario, when botulism was confirmed, respondents started to discuss not only their own personal safety but safety more generally. Clearly, the fact that the threat had been named and to some extent localized relieved the persons not immediately effected and allowed for discussion of the “bigger picture.” The general consensus was that there is currently a high level of threat of in the United States at this time, whether natural or manmade, and that security is insufficient to stop such an event. There was a lot of discussion of exactly where a terrorist would most likely strike and who the human targets would be. Many believed that they would not necessarily be in the line of fire (optimistic bias) and a few claimed that these events were most likely to happen in the center of larger cities where many persons could be affected.

One area in which all concurred was the need for general preparedness is prior to event occurrence. Most participants expressed the belief that individuals need to play a role in preparedness activities.

“I think the best thing for people to do is to educate themselves in case some kind of biological threat or warning is issued by the government. When it’s issued, they should know if it’s waterborne, food borne or airborne so that we can be prepared ourselves.” (*Urban Asian*)

“I also think that if you have a terrorist, chemical or biological threat we all should get shots. We have to go to places to get free shots. If they could provide that service to us it would be good.” (*Urban Hispanic*)

“To prepare ourselves. Like the SARS, if we are healthy, eating the right foods our body will resist to fight like the SARS, sudden acute respiratory syndrome we can overcome those kinds of diseases. (*Urban Asian*)

Federal and local government agencies were also seen to be responsible for emergencies, both in regards to preparedness and response. To some extent, participants asserted that sufficient

systems are in place. However, there was also a great deal of cynicism about local government, and concern that elected local officials are often not particularly accountable to their electorates and have a tendency to be absent, lie, and cover up their actions or inactions.

Regarding the botulism scenario itself, there was some discussion about sources of food that could be implicated. Persons mentioned canned foods and restaurant foods, and there was some debate as to whether the water or food supplies, restaurants or markets were implicated. For example:

“I don’t think this particular botulism, it can affect the water system. I think it’s more food than anything. But I think what the public would want to know is what foods, like what particular is it the source that is infected. Would it be the canned foods?... because I know they have certain testing for the food.”  
(*Urban Asian*)

“It might be a restaurant, or it might not be.” (*Urban Caucasian*)

“If it’s a huge lot of them, it would be more like food from a store than from a restaurant.” (*Urban Caucasian*)

“Not necessarily. It could be a restaurant or foods from a certain market. They could trace it that way.” (*Urban Caucasian*)

There was general agreement that systems were in place, working to solve the mystery. CDC was mentioned as probably having been called in to solve the outbreak puzzle. There was also a great deal of vicarious interest in solving the case. There were long discussions about outbreak investigations, when and how the news would be broadcast, what people should be told, and what people should do. Again, some examples:

“All of them have to have ate the same food, they said it came from a food source, so all of them have to have eaten from that source. So I am quite sure that those people got that food, they should tell people on the news to stop eating that type of food...” (*Rural African American*)

“They should have answers. The scientists are pretty smart, they should have something.” (*Rural African American*)

Following is a dialogue about what participants believe they should or should not do in the context of a botulism outbreak:

Person 1: “So you want stop eating what you have bought?”

Person 2: “If I’m not sick already from what I got, so why would I stop?”

Person 1: “What if you just bought something. You wouldn’t stop eating [‘til] you really find out [what food this] is coming from?”

Person 2: “I would be watching the news. I would be watching the news.”

Person 1: “I wouldn’t eat, I wouldn’t eat.”

Person 2: “ ....and I would find out are they getting any closer with any information about where is this food source come from...”

*(Rural African American)*

Some participants likened the botulism scenario to other food contamination issues, such as salmonella, poisoned Tylenol, or bad lots of food from processing plants. Other issues that arose included how long the investigation would last and what one would do if the source of the outbreak was not immediately clear.

Not a great deal was said about the medical symptoms, treatment issues, or medical consequences for persons stricken by botulism. In regards to the medical aspect of the outbreak, some participants assumed that presenting at the hospital would be helpful to the investigation. Others took a very dim view of going to the hospital, which may reflect the current dysfunctionality of large urban emergency systems as well as the fear of getting sicker. For example:

“My opinion, that’s the last thing I would do to go to the doctor because maybe people are already infected in hospitals, places like that. Just stay away from them just until they really know what is going on and make my decision.” *(ESL)*

### *c. Actions*

Initial actions that participants would take in response to the first scenario may be categorized into the following types of responses. The majority of persons said they would “stock up” on supplies including food, water, first aid supplies, batteries, and gas. The implication was that

they were prepared to stay in their homes. A second group of persons said that they would seek a way to leave town. A third group said they would “wait and see” what the experts told them to do before taking action. A number of persons said they would call family members or make sure their children were safe. Many mentioned seeking up-to-date information. A few persons mentioned that in addition to one of the other responses, they would also pray. Finally, there were a few persons who believed that nothing could be done once an attack had occurred.

A number of persons interviewed dispensed advice about what to do and what not to do. Also, various respondents felt that it was their responsibility to report unusual circumstances or information to authorities. Other strategies mentioned included:

“Follow the instructions. If the TV news is saying: Stay home. Do that. Obey the instructions that they are providing us. They are supposed to be much more prepared than us.” (*Urban Hispanic*)

“I mean, why get wrapped up in it, get in a panic, and get out there with 1000 other people that are driving 100 miles an hours, and get killed?” (*American Indian*)

“And that is the main thing, don’t panic, that is the main thing. Stay focused, don’t panic.” (*Rural African American*)

As the scenario became more intense in Part II, some participants still suggested that a viable response was to pack up and to leave town. However, as suspicion now was directed toward a food borne illness, panic seemed to subside a little and participants’ attention was focused more specifically on food and consumption patterns. In fact, for a number of participants, there was a major reversal of thinking about actions related to food and drink. Instead of rushing out to stock up on food and supplies, persons suggested they would rethink that approach. Some comments were:

“....if it were centered in St. Louis, I don’t think I’d be rushing to St. Louis to have a meal.” (*Rural Caucasian*)

“.....I should watch what I am going to buy food-wise... if I’ve got plenty of food in the house, I might not go to the grocery store immediately to stock up on food because there’s going to be a little bit of a time delay. That stuff might already be in our store.” (*Rural Caucasian*)

“I would have to buy different frozen food; start over again. I wouldn’t just buy food out of the store that’s already on the shelves. I know they can’t get it in frozen food since it’s frozen.” (*Urban African American*)

“So that’s why I say boil the water.” (*Urban African American*)

“like ....not rushing out to buy things, and that is if you would have a back log of maybe water or food that was not contaminated... Some things that you would have on hand that if something went wrong you could use.” (*Rural Caucasian*)

Another type of response was to continue to try to find out more information about the event. As one respondent said:

“I should have taken time to get more information to figure out what to do.” (*American Indian*)

“But also I would try to search where these people were at the moment, you know, when they were getting infected and in which area. So, I try to avoid going to that area and just get more information of course.” (*ESL*)

When the final scenario rolled out, in which the condition of botulism was confirmed and assurances were made that an outbreak investigation was underway; actions that persons spoke about continued to echo prior responses. A small group continued to suggest they would leave town, but the tone of the responses had softened considerably to being more of a joke than a serious consideration. An assumption that many persons seemed to make after the initial panic was that the outbreak seemed to be contained as new cases were not presenting. There were still a number of voices that called for moderation in responses until a more comprehensive report was released.

The biggest concern continued to be knowledge about whether food or water was safe to eat. Long discussions took place about how one might be sure about the food being eaten and what symptoms were indicative of botulism. For example:

“But if you have not come down with any of these symptoms from #1 or #2, then what you have in your house may be good already so you just watch what you are going to buy on the outside when you need to replenish.” (*Rural African American*)

“A lot of times when there are threats and different things and they come up with a certain food, everybody doesn’t know about it at the same time. So, if you eat and you continue to eat your food and you don’t get sick. You know that particular food that you have is good; but until you go out to purchase something different, and you have heard about what those 30 people have eaten, that they have come down with, then you are not going to purchase any of those things.” (*Rural African American*)

A number of persons said they would search for more information about the outbreak and the persons who were victimized, in order to try to understand possible sources of the outbreak. There was still a great deal of concern about panics and a mass exodus, but a number of participants suggested that it was important to remain calm and listen for the information.

#### *d. Information Seeking- What Participants Want to Know*

What participants wanted to know did vary according to what particular phase of the scenario was being rolled out. In Phase I, the questions were very basic and revolved essentially around three issues: 1) protecting self and family; 2) trying to understand the seriousness of the threat; and 3) determining who was doing what. Questions that came up included:

- 1) Protecting self and family: What can one do? How does one prepare? What should one do about ones children? What is the school policy (if have children there)? Which places are safe? Where is the threat?
- 2) Trying to understand the seriousness of the threat: What happened? What is the agent? Who is affected? How is the illness transmitted? Where is it coming from? Where is it centered? How widespread is it so you can get away from it?
- 3) Determining who is doing what: Where did it came from? Why did it get here? Who was responsible for the attack? What are the authorities doing about it? How can you counteract it?

By Phase II of the scenario, the questions were more specific to botulism, as the scenario specifically spells out that this agent is suspected. Questions centered on understanding the illness and symptoms, transmission, and what could be done to prevent the illness. Examples include:

“What does botulism mean?” (*Urban Hispanic*)

“Once air and water are contaminated what can we do?” (*Urban Hispanic*)

“If this is a contamination or something that could spread, and also how do we prevent it?” (*Urban Hispanic*)

“What did they eat? Or where did they go, what restaurants?” (*Urban Asian*)

“If you have been infected, what you have to do if you have been infected?” (*ESL*)

“Is there a vaccine for it?” (*Urban Asian*)

“So I want to know what kind of food or water these patients got.” (*ESL*)

“I would really want to find out what was in the food; canned food or was it water?” (*Rural African American*)

“Do you think that the governor would have an antidote for that?” (*Rural African American*)

“Don’t you think he [the governor] should tell us something besides these peoples came into the hospital? Where not to go or where to go or something?” (*Rural African American*)

“Let me ask you something, is this contagious?” (*Rural African American*)

With the roll out of Phase III, the nature of the questions shifted once again. Here the issues were not of personal survival as after Scenario I or of epidemiology as after Scenario II. Rather, issues centered on the nature of emergency response systems, the role of community organizations and schools, how the emergency broadcast system would work in such a case, and which agencies were responsible for what. There was also a general concern voiced, especially by groups who were not native English speakers, about broadcasting information about the event in multiple languages. Throughout all of the focus groups, participants expressed a high degree of need for as much information as possible, which is a very normal response in the context of a disaster or event affecting a large segment of the population.

#### *e. Information Seeking - Where Participants Want to Get Information*

Following the Phase I description, participants mentioned three different types of sources to which they would turn for information. First, there was the mass media, including local television stations, local radio stations, national television and radio stations, and finally the

Internet. Local stations were seen as the first mass media to turn to, as it was perceived that they would cover the story first. However, once it got onto national news, television networks such as CNN, ABC, NPR and CBS were cited, as was the BBC. It was similar with regards to radio, with persons giving preference to local stations due to speediness of response. However, once the national stations had picked up the story, persons would turn there as well. . There was also mention of the Emergency Broadcast System and that if the power went out it was important to have a battery operated radio. Many persons mentioned that they would turn to the Internet which reflects the growing popularity of this communication channel to view news stories. No specific Internet sites were mentioned.

The other main sources of information were community-based health, religious and first responder organizations. Specifically, persons said they would go to fire stations, the police, the Red Cross, churches, and other community-based organizations to find out what was occurring. Persons they would seek out included policemen, firemen, and priests. There was little mention of elected politicians or physicians. A few persons mentioned that they would seek information from multiple sources, including mass media and interpersonal networks. Finally, participants mentioned the newspaper as another source of information.

Following Phase II of the scenario, media choices expanded somewhat as well as individuals' rationales for using them. Participants stated that they would still turn to the television and radio stations for breaking news, as well as police, fire and Red Cross sources, but a number of persons now mentioned hospitals and the public health department as additional sources of information. Participants said they would go to newspapers and the Internet for more in-depth information. Types of Internet sites mentioned were governmental and university sites that deal with bioterrorism. A number of persons mentioned the CDC website as a good place to go for information.

After Phase III, participants continued to seek information from the same sources already mentioned, but at this time they were also interested in places and organizations that might hold briefing sessions, town hall meetings, or community-based forums. Examples of places mentioned were schools, Head Start programs, and churches. The idea was that health department officials, hospital personnel, first responders, university experts, or other local

authorities could debrief neighborhoods about the issues. Again politicians and elected officials were not specifically mentioned as reliable sources of information.

### 3. Materials Pre-Testing

#### *a. Comprehension of Materials*

##### *i. Overall Comprehension*

Generally, participants understood the main points of the fact sheet, including how to prevent exposure, how to identify symptoms, and how to obtain treatment. Even persons in more disadvantaged groups seemed to be able to grasp the main points. Overall, participants thought that the information was useful and doable. Many said that they had learned a lot. Clearly, this is new information for many of the participants. As some said:

“It tells you about how it is contacted, how you get treatment for it, it tells you how to seek information on it, and ...how it can be contacted and treated.”  
(*Rural African American*)

“It gives me information that you would want to know in an emergency.”  
(*Urban African American*)

“At first when you first read it, it seemed so fearful, now reading this pamphlet here, it educates you a lot.” (*Rural African American*)

“This is interesting stuff though. You gotta be trying to really listen. I never heard of that word before until he said it. Botulism.” (*Urban African American*)

“Another thing, why this information is important, is because we can give it to other people. This is information that we can share with others to educate them on it.” (*Rural African American*)

More specifically, in recalling the objectives of the fact sheets, most participants stated and repeated that the main point that they learned was how to prepare their food properly. This reflects the fact that simple, more concrete messages are more easily understood and remembered. It also reflects participants’ understanding that this is the main way to prevent the spread of botulism.

“They want you to purify your water and fry your food at a certain temperature.” (*Urban African American*)

“...it says that canned food can be poisoned and that you must cook it at a proper temperature.” (*Urban Hispanic*)

“I feel like once you get the information of the bacteria and you know the properties and how you can get infected and as easy like cook your food very good and more than 80 degrees and five minutes and everything, it doesn’t look like it’s pretty dangerous. Because the only route being contagious is uh when you eat, and if you eat all your food well cooked, it’s not that dangerous.” (*ESL*)

“Boil my food, especially chicken and fish, and my steaks too.” (*Rural African American*)

“Well it says over here, it says clearly that you have to boil your food for at least five minutes on 185 degrees temperature no matter if it’s frozen or canned, ....You can kill these viruses. I mean that’s the main thing that if you are gonna eat or drink or even take a shower, you have to boil the water and everything. (*ESL*)

“[Y]ou can take ways to prevent it. Heat up your food if they tell you.” (*American Indian*)

Some participants did express a clear understanding of how botulism is developed and spread:

“Tin can, lack of oxygen like in canned foods. If the spores are in the can, then the spores can develop. (*Urban Caucasian*)

“It’s not contagious. You have to eat it.” (*Urban Caucasian*)

“It looks like it’s not contagious. You can’t catch it from someone else.” (*American Indian*)

## ii. Additional Information Needed

Participants did need some clarification on certain aspects of the fact sheet. Although participants generally understood that food needed to be cooked in order to get rid of botulism, there was some confusion about the specific concepts used in the fact sheet and how to comply with them in certain situations. For example:

“So that’s not clear. What does boiling water for five minutes do?” (*Urban African American*)

“They don’t want no blood dripping. I don’t know too many of us that drip blood and stuff. You know what I mean?” (*Rural African American*)

“When you go out to one of those family restaurants, it’s all they are going to serve you unless you have a choice. Like at church we go to the Sheraton hotel, and everybody gets medium-rare. Nobody [has] a choice on well-done... It don’t be bloody but it’s just pink inside.” (*Rural African American*)

There were also some comments from the focus group respondents about the reading level and technical terminology used in the fact sheet. For example:

“...for me it’s very clear, every question. The problem is I don’t understand some words. Well there’s the scientific terminology that is unknown, like botulism; I have never heard of it.” (*ESL*)

“There are some words that I can’t read.” (*Urban African American*)

“It’s just a few words in the paragraph that I can’t really pronounce. Like where it is says ... in children less than 12 months of age; that I don’t know. Then it says immunization systems are not firmly developed? I don’t know what that word is.” (*Urban African American*)

Also, participants needed clear direction as to specific food preparation guidelines.

“I have a question on here. It says that you can’t smell or taste the bacteria that is in the food if it is contaminated. But don’t eat it. I don’t understand that. You see what I’m talking about, the smelling and tasting the botulism?” (*Urban African American*)

“It mentioned alcoholic beverages, but it didn’t say what to do about them.” (*Urban Caucasian*)

“There are things here in the food that aren’t addressed, which are prepared foods, chips, pudding, anything like lunchmeat, bread. These are all things you can’t boil or really cook. There should be something about what you can do with these foods.” (*Rural African American*)

Participants may also need more clarification on the process by which botulism can be introduced to food products by terrorists, especially canned foods. Most participants were confused as to whether the bigger threat was posed by naturally occurring botulism or by terrorist induced botulism.

“Maybe it’s the sanitary things and how it’s processed, maybe it wasn’t terrorism.” (*Urban Asian*)

“The botulism that you are referring to is it the common botulism bacteria or the one that the terrorists use?” (*Urban Asian*)

“Is botulism one of the top weapons to be used by terrorists?” (*Urban Asian*)

“I would like to know where botulism comes from; from what organism it comes from? Here they say it comes from the soil and the environment. But how does it get into the soil?” (*Urban Hispanic*)

“What causes botulism? That was my main concern. Also it doesn’t tell the history of this disease, where it comes from - the origin.” (*ESL*)

“The idea of how could the food gets contaminated; I think people would want to know that.” (*Rural Caucasian*)

Many participants expressed the view that the symptoms for botulism are similar to symptoms for other illnesses. They expressed the need for more clarification on how to distinguish botulism symptoms from symptoms caused by other illnesses. Others expressed a general lack of understanding regarding symptom recognition.

“Probably more of the symptoms. If they could expand more on how it looks like. A lot of other sicknesses may be under those same symptoms.” (*ESL*)

“I would like to include information about a comparison between botulism and other food illnesses that you can get.” (*ESL*)

“We need a little more details on what are the symptoms. Probably that’s the only thing.” (*ESL*)

In terms of transmission, participants were not very clear about how botulism is spread from person to person. When asked how botulism is spread, participants responded by stating:

“It’s spread by air.” (*Urban Asian*)

“Can botulism be spread by insects or mosquitoes?” (*Urban Asian*)

“Respondent 1: So can one person get it from another person?

Respondent 2: No.

Respondent 1: Yes. It says it right here.

Respondent 2: Not unless they’re shooting up or something.”

*(Urban African American)*

“I would never think you would breastfeed with it, but you can.” *(Urban African American)*

Also, some views regarding transmission were speculative and suggested unrealistic constructions about how a terrorist might use botulism. That is, in thinking about transmission, many participants speculated about what a terrorist might have access to and then drew conclusions about the possible routes of transmission:

“It can be spread through oil, too, right? Whatever kind of oil or gas it is, we get our gas from the Middle East. It’s oil.” *(Rural African American)*

“[B]ecause we are importing and exporting food from other countries ... so that’s already one factor.” *(Urban Asian)*

Participants also had the following questions:

- a) How long will treatment take?
- b) How will botulism affect those with pre-existing conditions?
- c) How is a case of botulism confirmed?
- d) How is botulism treated?
- e) What are the effects on those with comprised immune systems? and
- f) What are other methods of decontaminating food?

Participants’ comments illustrating these issues include:

“I think what others would want to know is, if I got it how long do I need treatment.” *(Urban Hispanic)*

“So if you got a weak respiratory system, and you got this botulism, could it go worse?” *(Urban Asian)*

“The question is, ‘Is there a cure for botulism?’. People are going to be very interested in that.” *(Rural Caucasian)*

“How long do the effects last? It says that the body eventually heals itself, but how long does that take?” (*American Indian*)

“For example, they say that to clean you need to use bleach and that eradicates it, right? But I guess that if the house is poisoned, we have to clean the entire house, not only the floor or where we wash the pots, but everything. So, what would we do to clean the entire house?” (*Urban Hispanic*)

“Is someone working on a cure?” (*Urban Caucasian*)

“My question was in the management section. We talk about early diagnosis, but what if you go over to your grandmother’s house and she’s further along than early diagnosis? When is it too late for treatment?” (*Rural Caucasian*)

“Does it hit the elderly and children stronger? We talked about how HIV patients are at an added risk. But if your immunity is down I would expect that anything is going to hit you harder and that goes for HIV or age?” (*Rural Caucasian*)

“When I was reading about fixing your water, you can use iodide to help to make it safe, but it wasn’t recommended. Why?” (*Rural African American*)

### iii. Risk Perception

Overall, participants did not understand what the real and immediate threat of botulism. While most felt that they could prevent botulism by cooking food properly, others did not have a good understanding of how terrorists might use food to spread botulism. Furthermore, many felt that the risk from botulism is low given that botulism is not common, is not contagious, and cannot be spread from person to person:

“A general example of a terrorist group getting into a factory and poison the meat or going to the grocery store and do such and such.... Not a whole lot [of information] on how it occurs.” (*Rural Caucasian*)

“Okay, they say that botulism is out there so everybody boils their food to make sure their stores are clean. If it’s that simple, why would they bother?” (*Urban Caucasian*)

“For me, it’s hard to understand why it’s so dangerous. But it’s not common because, according to this information, they said it’s not commonly found. But it is dangerous. So it’s not clear for me why it’s so dangerous and if it’s common or not.” (*ESL*)

“I would say it’s safer because here it tells you the steps that you can do to avoid getting infected. I mean if you just read a little bit through the whole paper, it tells you a lot of the things you can do. That is why I feel safer ...now I know that I can go comfortably because it’s not contagious by any way except for eating and injecting.” (*ESL*)

“But if treatment is that simple by boiling or cooking (or whatever), then why would they even bother with it?” (*Urban Caucasian*)

“I think it happens in a lot of infections that you get, that people don’t pay attention because they [the bacteria] are there all the time and they think they can get by.” (*Rural Caucasian*)

#### *b. Emotional Response*

Knowing the effects of botulism proved to be shocking and invoked fear in some participants:

“First of all, I didn’t know anything. But now, after we have discussed it here and knowing what can happen to human beings, you are shocked.” (*Urban Hispanic*)

“I feel that I have gained some knowledge and I am more concerned now.” (*Urban Hispanic*)

“There’s enough information on there that actually scares me.” (*American Indian*)

“I’m going to be more careful with everything.” (*Urban Hispanic*)

Others expressed concern over the welfare of their children and family members:

“I have a child that loves to play with soil. Now I am concerned about it because he loves to play with soldiers on the ground.” (*Urban Hispanic*)

Some participants felt anxious about not knowing if symptoms were due to botulism or another illness:

“If they’re gonna try to do a diagnosis, it would take days, so the doctor would kind of have to guess that you have it to initiate the treatment. Maybe it could be something else, but he can’t wait to have a lab test in a few days or you get worse. So, that’s very scary. Cause, while they’re guessing what you have, who knows what you really have.” (*ESL*)

For some participants the fear of canned foods was overwhelming. A few participants stated that they will not use canned foods at all:

“[T]he things I used to do, I am not going to do anymore. I am not going to buy canned food.” (*Urban Hispanic*)

“Maybe they are going to get confused with the vocabulary. But once they read this, they are going to know the risks of eating canned food and are going to consume them as little as possible.” (*Urban Hispanic*)

While the informational material raised anxiety in some, for most participants, knowing that botulism cannot be transmitted from person-to-person and understanding how to prevent exposure through proper food handling reduced fear and anxiety:

“It gives you a little bit of security knowing that there is something out there, you know, you can get the information if you need it.” (*American Indian*)

“Because the only route of being contagious is when you eat, and if you eat all your food well cooked it’s not that dangerous. So for me, at the beginning, it was like botulism was a scary thing, but now it is clear that it is not that dangerous.” (*ESL*)

“I would say it’s safer because here it tells you the steps that you can do to avoid getting infected. I mean if you just read a little bit through the whole paper, it tells you a lot of the things you can do.” (*ESL*)

“It [the fact sheet] makes me feel a little better.” (*Urban Caucasian*)

“It’s not as bad as I thought.” (*Urban Caucasian*)

“You are kind of forewarned with this.” (*Urban Caucasian*)

“It makes me happy to know how easy it is to prevent it. If we were told there was a botulism outbreak and that food has been infected with botulism, if I don’t have it, it will be very easy to prevent getting it. That makes me feel good. Also that treatment is available for it rather than if you’ve got it you’re going to die, period, that’s it. It’s good to know that there is treatment available....” (*Rural Caucasian*)

“I’d feel a lot safer after reading this rather than being worried about the idea of needing inoculations and all the worries about that.” (*Rural Caucasian*)

Participants had a few suggestions about how to lessen fear and anxiety. For most, a statement regarding a cure or effective treatment would accomplish this.

*c. Credibility/Believability*

Although participants did not know the origin of the print materials, most believed them to be credible and that the recommended actions were devised by professionals who are experts in botulism.

“Well, in my case I had never heard that word, botulism. I’m reading about it now and I will trust it because I am reading it.” (*Urban Hispanic*)

“It sounds written by some doctor or scientist, biologist or microbiologist.” (*ESL*)

“Whoever wrote it did a pretty good job.” (*Urban African American*)

“Oh, I believe it because I have studied bacteria. I am a cosmetologist and we talked about the helpful bacteria and the unhelpful bacteria and spores are one of the ones we studied. Bacteria cause infection and other diseases. One of the things we learned was the difference between bacteria and a virus.” (*Rural African American*)

“If you already know about it, you’re looking at it going, ‘yeah that’s rights, that looks pretty right’.” (*American Indian*)

Some participants voiced concern about the completeness of the information in the fact sheet and said they would be likely to seek out additional information.

“There’s seven different types of toxins, and they only tell you about four that are human? Why not tell you about the rest of them ...?” (*American Indian*)

“Well ... for me... it is better to consult directly with a doctor. I think that they are more specialized.” (*Urban Hispanic*)

“I believe it, but I wouldn’t rely solely upon it. I would go and do other research to make sure.” (*Rural African American*)

“Anybody can write this paper and tell you to do this and you just don’t know where the information comes from. So you have to probably call, you know, like hospitals or some research unit places where you can compare information from one to another and make your own decision. At first sight I

would say ‘yes I would do this if I have no other information’. But if I know that somebody else gives me different information, then I compare.” (ESL)

Two recommendations for improving the credibility of the materials were 1) include the source of the information and 2) provide a telephone number, website, and or address that participants could use to obtain more information.

“You have to compare who is the person that [wrote] this. Because there isn’t any sign, no title, any association or anything that says that it is true.” (ESL)

“I don’t know where is it, and I don’t know who is it. So, maybe an address and more information.” (ESL)

“When we see something is from a university or a place that is respected, it makes a difference.” (ESL)

#### *d. Self-Efficacy*

For the most part, participants felt that it would be fairly easy to follow the recommended actions in order to prevent exposure to botulism. It should be noted, however, that participants viewed the main prevention strategy for botulism as cooking food and boiling water at the correct temperature. This idea was repeated many times in the focus groups.

“All you need to do really is cook your food hot enough and long enough, boil your liquids hot enough and long enough, and keep the surfaces clean and you’re pretty much in good shape from getting it.” (*Rural Caucasian*)

“The best thing to do are cooking things properly and washing them clean and using your sanitary measures in your kitchen. It used to be kind of normal when you handled milk and other raw things that you washed everything off with a Clorox mixture. We even kept one under the sink that you wiped the counters off with especially when we had babies or little children. Those are not precautions that people even think about taking now.” (*Rural Caucasian*)

“They are pretty simple steps.” (*Rural African American*)

Again, most participants viewed the main recommendations as food preparation and therefore felt that they could follow the recommended actions:

“I would boil my water.” (*Urban African American*)

“I would cook my food to 185 degrees.” (*Urban African American*)

According to some participants, some of the recommendations did not seem realistic or clear and thus would be disregarded.

“I find it interesting you should boil the water for brushing your teeth. I use to just run the faucet water, but this downtown city, boil the water for brushing your teeth, I don’t get that.” (*ESL*)

“The next time maybe I think I need to boil water. But I’m not one-hundred positive about the shower.” (*ESL*)

“They say boil liquids for five minutes before consuming them. So you got to do all this stuff now? What about the stuff like sodas and stuff like that? You can’t boil that.” (*Urban African American*)

“I would follow *some* of these rules.” (*Urban African American*)

“The next time I take a pill and I reach for a glass of water, I’ll drink and then think, ‘oh I shouldn’t have done that’. I am not sure that I will follow it absolutely.” (*Urban Caucasian*)

For most participants, following recommended actions was believed to lead to a desirable outcome. Others thought they would need to conduct more research on recommended actions from other sources:

“If it’s guaranteed that nothing is going to happen, I will do it.” (*ESL*)

“The issue about ‘that it’s guaranteed to help you a hundred percent’. It is probably just things you can do to avoid getting infected, but I don’t think that it’s going to guarantee a hundred percent.” (*ESL*)

“I believe it, but I wouldn’t rely solely upon it. I would go and do other research to make sure.” (*Rural African American*)

For others, there was a general feeling that the information was not going to reach all individuals in a timely manner, and therefore, the recommended actions might not result in a desirable outcome:

“Not everyone is going to know that they have to boil everything until it is too late.” (*Urban Caucasian*)

*e)Participant Recommendations*

Most participants thought the materials were very informative and were happy that they got a chance to learn about botulism.

“It was very informative.” (*Urban Asian*)

“Everything is well explained.” (*Urban Hispanic*)

i. Writing style and content

For some participants, the content of the fact sheet proved to be too dense. Some also had difficulty understanding the terminology. Recommendations for improvement in these two areas were to include only the main points in the fact sheet and to provide a glossary for the scientific terminology used. There was also a great deal of concern about the literacy levels of individuals who would be reading the materials.

“First of all, this is a lot of information if a person doesn’t like to read.”  
(*Rural African American*)

“Maybe they are going to get confused with the vocabulary.” (*Urban Hispanic*)

“It’d be nice if you had like a glossary of the scientific stuff, explaining it a little bit better.” (*ESL*)

“For some people it can be very technical.” (*ESL*)

“In my case ... I don’t read it. Just when I get a simple important information.” (*ESL*)

“Break down these words. Write the meaning of them.” (*Urban African American*)

“Give the meanings so we don’t need the dictionary.” (*Urban African American*)

“You know, maybe some more information in between cause our average people don’t like reading a lot and they will glance through and miss the important things. Or having sessions where people can tell them more so than just reading about it, because a lot of people have medicine and don’t read all the labels about the information, but if the doctor sit up and tell them....”  
(*Rural African American*)

“One thing I would suggest is that, with anything you are giving to the community, is to make sure it is on the level that everybody can understand it.” (*Rural African American*)

“There are a few words that probably need to be broken down a little more. Like this, [trying to say *Clostridium botulinum*]. Cause a lot of times when they see information like this, which is helpful and good, but when they start looking at those big words they are going to put it down because they going to feel like they can’t understand it.” (*Rural African American*)

“Just like we said, just to summarize it, people who don’t read well or don’t like to read, condense it do into maybe a flip over book size to keep with them, to have with them to store in their kitchen. Because you know this will end up with other papers and get stuck in a corner somewhere.” (*Rural African American*)

“Break the terminology down a little bit, so they can really understand the words Break it down where everybody can understand it, even the people who can barely read.” (*Rural African American*)

## ii. Formatting

Participants had recommendations for specific formatting and presentation of the print materials, including using larger print, inserting pictures, and better highlighting of some of the key points such as treatment options:

“Pictures, because they are easier to understand.” (*Urban Hispanic*)

“Words and photos, explaining each part carefully.” (*Urban Hispanic*)

“Put it in a bigger print.” (*Rural African American*)

“I was looking at the way these things were arranged and I thought that some questions should have been earlier. I want to see the most important things to me first. And I didn’t think Botox transmission was as nearly as important. ‘Can botulism be spread from one person to another?’ I thought that should have been much earlier. That’s on the third page. I don’t have a clinical mind or a scientific mind and I don’t want that right away.” (*Rural Caucasian*)

“I want to know if I can get it from others; how are we going to get it? and what are the symptoms? That should be right here on the first page as far as I’m concerned.” (*Rural Caucasian*)

“I think this needs to be stressed: ‘No, there is no cure.’ But you had better... mention anti-toxin. I think that needs to be first page because later on since there is no cure, and there is this limited treatment. You better be doing this right now to prevent it rather than four pages later.” (*Rural Caucasian*)

“I think more information, and I am sure it would be arranged differently, but cook it, boil it and forget it. That needs to be three or four times.” (*Rural Caucasian*)

“But to get the basic information ...how you can get it, this is what you need to do about it, there is a treatment, no vaccination but a treatment. People would pick this up read the first two or three and then they would go to the back to see if it said what they could do. They wouldn’t bother to read the middle part.” (*Rural Caucasian*)

“That last paragraph on the back, disinfection, that is very important. It does not belong there at the end. Also you need a conclusion. There needs to be a summary paragraph.” (*Rural Caucasian*)

Moderator: “Do you like the format of question [and answer]? and

All: “Yeah. That’s good.” (*Urban African American*)

“I think it could have been a little more clear, I guess. The first page as to spores and what they are and how all that takes place, then they start talking about the bad stuff. It could be a little clearer.” (*Urban Caucasian*)

“And the second thing is there needs to be illustrations, there needs to be big headlines. You know, all the tricks...there needs to be all kinds of things to call their attention to it.” (*Rural Caucasian*)

“This is a good one for people who want the information, but if you’re trying to just get it out to everybody, use a much more generalized version.” (*Rural Caucasian*)

### iii. Dissemination of information

In terms of dissemination of information, participants expressed a desire to receive information prior to an outbreak. Some stated that they prefer getting reminded from time to time about how to prevent and treat possible exposure to contaminated food or food-borne illnesses.

“Just have the information available, you know, that if a person wants to read up on it or know anything or have little small cases in different places that they have heard of. We have this information, but if someone else you know comes through the hospital, or in our neighborhood, or community that might

come up with some of these symptoms then we can look at these papers *and* say, ‘hey, it might be this.’” (*Rural African American*)

“So if someone would have had the information when we were panicking, everybody wouldn’t have panicked.” (*Rural African American*)

“I think there needs to be, as a further prevention [step], if we really think there is an outbreak here, there needs to be signs in the grocery stores. More than just reading an article, put it out in some way. There needs to be reminders.” (*Rural Caucasian*)

“We definitely need to educate the people more. Especially with the things that are going on and with us being so absent minded about a whole lot of stuff. Educating the community, that would be more important than anything. (*Rural African American*)

"I saw on television where they were talking about the deli meats you get and how long it is safe to eat those. I think these constant reminders like news boards, especially if there is a threat of botulism, is good. The symptoms, and then what to do to prevent and so forth; some of these main things need to be stressed.” (*Rural Caucasian*)

Also, participants recommended community education regarding botulism and other related issues:

“[D]o more focus groups in the community to make them aware of the different things that are going on. If you start doing more on those issues, it would educate them more.” (*Rural African American*)

“I think it would help if we got some courses to be more informed on these issues. These trainings are really good. Many people are aware of them and do not take them seriously.” (*Urban Hispanic*)

“Hand out written information. Give seminars at the schools.” (*ESL*)

“Maybe shows us. Go somewhere ...within the hospital or emergency office....” (*ESL*)

Recommendations for release of information when an event happens included having a readily available 800 number where individuals can call and get information, and making facts sheets available in different languages:

“[I]t would help ease me if we find a 1-800 number to help if you have been infected. At being able to help a lot if I didn’t have time to go to the doctors if it’s crowded there.” (*ESL*)

“An 800 number.” (*American Indian*)

“Phone numbers we can call.” (*ESL*)

“I guess you could improve it by putting some kind of telephone number on there, like if you have any questions.” (*American Indian*)

“Right, they tape my message and I put it in my tape player, you know, and I listen to them. So I don’t have to worry about seeing how to read, or mispronouncing my words. That mispronouncing can cause you a lot of problems, too.” (*Rural African American*)

“Web pages where we can find information in our language. Because some technical words, I don’t know what it means. So, I need to read those words in my language.” (*ESL*)

“I think that if we are not native English speaker it would help if we could find information in our language also.” (*ESL*)

“This information is not available for everyone. It’s not available in Braille and not available in a recording. I’m blind so I would need this information - how I can get it.” (*Urban Caucasian*)

Participants also had a few suggestions on how to make the topic of botulism relevant to individuals, how to grab people’s attention, and to assist with the recall of the important points from the fact sheet:

“Like it says, botulism affects your nervous system. If ...you specify exactly what it does, a lot of people would be more willing to take precautions.” (*American Indian*)

“Heat kills. Cold doesn’t. So ice cream, stay away form ice cream. We need to stress some things...you have to know foods that you definitely want to stay away from.” (*Rural Caucasian*)

#### 4. Perceptions

##### *a. Government*

A number of government agencies were mentioned in connection with bioterrorism preparedness, including the Centers for Disease Control, public health departments, the U.S.

Department of Agriculture, and Homeland Security. Participants were generally positive about the Centers for Disease Control and referred to the recent example of the SARS epidemic and how the CDC was effective in controlling the disease. The U.S. Department of Agriculture was mentioned as an agency that helps to assure the safety of the food supply. While Homeland Security was also mentioned, nothing very specific was said about it.

When discussing the government in general, and its role in protecting citizens from attack, the discussion tended to be much more divided than when speaking about specific agencies. Some participants expressed confidence in the government and some derided it. In general, feelings were mixed about overall national security, how prepared the government is, and the degree to which they are able or would be able to prevent an attack. For example, participants who were not very confident in national security efforts to prevent terrorist attacks stated:

“I think there is not much security.” (*Urban Hispanic*)

“I’m not very confident. All we know is what we see. Like I said, they have these government people and different people and they say everything. I haven’t experienced it first hand. It makes it a little skeptical.” (*Urban African American*)

“It’s so hard to weed out the terrorists once they get here because they come in like ordinary citizens. We don’t know who they are. We don’t know where they’re coming from.” (*Urban African American*)

“Well they ...they show us all these different things. I mean I have seen on TV where they had these hazardous things, and they’re testing it. Like I said, all we can do is rely on what we see. I can’t be that confident because they can say anything. You know what I mean? It doesn’t really give me that much confidence.” (*Urban African American*)

Sometimes confidence was expressed in a pejorative way:

“I expect President Bush to keep us safe because he’s the one that starts this crap.” (*Urban African American*)

Other themes that emerged in relation to the government were the degree to which it is responsive to emergencies, and trust in the emergency response system. These also drew mixed responses with some participants thinking that local governments are ready, some feeling the opposite, and some expressing ambivalence about the situation.

“I don’t feel confident enough that there are enough security, or how do I say, enough treatment centers to control some sort of attack.” (*ESL*)

“My opinion is when this goes to high alert...I’m sure that there is going to be phone numbers that you can call. I assume that’s what the government is going to do. Because, you know, if everybody is going to be just running like a crazy, it’s not going to be good at all. Just cause more panic.” (*ESL*)

“I wouldn’t go out to a restaurant or anything like that, but I would wait because I still trust the people in charge to let me know if there is something I can do.” (*Urban Caucasian*)

“Okay, so maybe there might be response systems in place, but it’s just not known....we haven’t been informed if there is.” (*American Indian*)

“I will look for information on the Internet; for me it is better. I know that government information always hides something.” (*ESL*)

“The government will do everything for our good. That’s why you must believe in the government.” (*Urban Asian*)

“Basically, I trust the emergency system.” (*ESL*)

Politicians and elected officials were less likely than other government entities to be complimented by focus group participants, but there was a range of opinions. Some participants trusted their local elected leaders and some did not. Many did not believe that their local politicians would be able to manage a major emergency. For some, Mayor Rudy Guiliani of New York was considered the ideal of how an elected official should respond in a crisis.

Overall, government was perceived to have an important role in both managing the immediate crisis in the event of a terrorist attack or other disaster, and in the longer term, educating the general population about preparedness. Many also mentioned that when educating the public about preparedness, it is not enough for the government just to tell people to “be prepared.”

#### *b. Media*

Three main themes were revealed in regards to general perceptions about the media. First, most participants viewed the media with some degree of skepticism, at the same time acknowledging that the news has been adept at covering important and breaking stories. Some comments included:

“Sometimes they sensationalize too much, or make things bigger than they really are.” (*Urban Hispanic*)

“It depends on what they say. Sometimes it is just propaganda.” (*Urban Hispanic*)

“If the President says so, declares it, confirms, it...it’s the President. But, if it’s only a newscaster, I don’t believe.” (*Urban Asian*)

“Excuse me, it looks like we’re on the same page here, nobody trusts the ... news channel.” (*ESL*)

“They are only as good as the information they get.” (*Urban Caucasian*)

A second theme voiced by participants was about how they use the media. That is, many persons commented that they use multiple sources of news to get a comprehensive view of events.

Comments of this sort included:

“I think that it is good to watch different networks...keep changing between Spanish and English, and then you get a better idea.” (*Urban Hispanic*)

“It’s important to track the different information. Not only one. If you turn on the T.V., it’s probably only ABC. But if you search the Internet, you can track all different information. I mean you can decide.” (*ESL*)

“It would probably be the St. Louis newspaper as well because they can go a little bit more in depth. But I’d be checking CNN as well because if this is going on, it’s going to be attracting national attention as well if President Bush has said something. I’d be checking CNN and I’d be checking a lot of the satellite stations that are maybe a little bit more involved in that. I’d be checking C-SPAN.” (*Rural Caucasian*)

Finally, there were some interesting comments about media in other languages, namely Spanish. In particular, Spanish language media were not always seen as the most reliable source of news.

“In English networks they say the news first, and in Spanish networks they say it last.” (*Urban Hispanic*)

“English networks inform constantly until the problem has passed. Spanish networks give you a little piece of information and they turn to the regular programming.” (*Urban Hispanic*)

“Because sometimes the Spanish media tells you something that it is not really happening.” (*Urban Hispanic*)

*c. First responders*

Perceptions of first responders varied a great deal between groups. Some persons had positive views of EMTs, firefighters and police and were quite certain that they were trained and willing to respond in an emergency. Others were more critical of first responders and did not believe that they would be quick enough or responsive enough in an emergency. Another concern was about the number of first responders who might be available in an emergency, with many suggesting that their communities had only a few of these persons available. Finally, there were general comments that first responders should be involved in community education on bioterrorism preparedness.

*d. Health and Human Service Providers*

Medical or public health providers were viewed positively, but with similar issues as with the first responders. Group participants were concerned that in a crisis situation that there would not be enough health providers available. Most participants assumed that these persons are trained to respond to bioterrorism events.

**C. Focus Group Findings for Public Health Professionals**

1. Pre-event Knowledge

*a. Protection of Self from Attack*

Health professionals (emergency medical technicians and frontline public health workers) indicated that their knowledge on how to protect oneself from an attack is fairly limited. Information is new and generally gleaned from personal experiences:

“I think it is such a new topic. There's so much that is still new. I just haven't seen a lot of research or information out about this stuff. Though I may feel that I know a lot about one area or another, I still feel there is a lot of room for education that I haven't learned much about.” (*Frontline Public Health Worker*)

“What I know is from things I've experienced. I know enough to know where to go. I don't know enough to answer questions on top of my head. I am probably not real good at that.” (*Frontline Public Health Worker*)

### *b. Meaning of Bioterrorism*

When asked about the meaning of bioterrorism or biological weapons, the health professionals interviewed volunteered various forms of biological weapons as well different types of agents that have been or could be used in a biological attack.

“Germ warfare, medical weapons, bio-med weapons.” (*Emergency Medical Technician*)

“I usually think of things such as smallpox, anthrax and things of that nature.” (*Frontline Public Health Worker*)

“I think about canned goods, like beans and tomatoes. And infant botulism with the honey.” (*Frontline Public Health Worker*)

Fatal and widespread impacts were also mentioned by participants as potential results of a terrorism attack, indicating, in some cases, a somewhat fatalistic view:

“Generally some type of disease or something that is going to cause an illness that is either going to be undetectable long enough that by the time it's realized, its impact is potentially fatal for something that's like a virus that's not immediately curable with antibiotics.” (*Emergency Medical Technician*)

“Maybe some total destruction would be one of the first things on my mind.” (*Emergency Medical Technician*)

Even though some participants indicated that they were comfortable with the amount of knowledge they have of botulism and bioterrorism in general, they also expressed a lack of knowledge on both their own and the public's part. Frontline workers who said they do not know the information, also often said that they know what resources they would need to consult to get it. Some felt that information changes constantly and new information is not always made available to the general public or even to medical personnel, making it difficult for individuals to stay abreast of current knowledge on the subject. Examples include:

“I believe I have a fairly good understanding of the concepts. I'm not an expert by any means.” (*Frontline Public Health Worker*)

“[I know] a lot of it is depending on what it is, but then again if I don't know it, I can find out.” (*Frontline Public Health Worker*)

“I think it is such a new topic. There's so much that is still new. I just haven't seen a lot of research or information out about this stuff. Though I may feel that I know a lot about one area or another, I still feel there is a lot of room for

education that I haven't learned much about.” (*Frontline Public Health Worker*)

“What I know is from things I've experienced. I know enough to know where to go. I don't know enough to answer questions on top of my head. I am probably not real good at that.” (*Frontline Public Health Worker*)

“I also think that even if you went in and really researched and looked up and, you know, felt that you were well educated, there is...a year or two later, what you've learned is probably obsolete, things, you know, have evolved and gone on...” (*Emergency Medical Technician*)

“I think there's so much scientific research that's so different that it's kind of hard to get a grip on just what ... you need to know.” (*Emergency Medical Technician*)

“I feel that they don't give us enough information in the medical field.” (*Emergency Medical Technician*)

## 2. Response to Hypothetical Attack

### *a. Emotional Response*

When presented with the scenario of a biological attack in their community, participants had mixed emotional reactions to the event. Responses ranged from outrage to concern to fear. Similar to the public, first responders were interested in knowing further specifics about the attack.

“Outraged ...” (*Emergency Medical Technician*)

“What my first thought would be is concerning family and friends and where it was, where it happened, and what was involved, and what area was involved, what needs to be contained, and time to go to work.” (*Emergency Medical Technician*)

“[T]he initial response is gonna be fear. The first thing you're gonna think is...how does this affect me? Is this a life or death thing? You know? It would be abnormal if you were not at all scared.” (*Emergency Medical Technician*)

### *b. Knowledge and Beliefs*

Health professionals expressed concern regarding the public being presented with too much information, particularly if they seek and receive differing advice from different sources. The

participants felt that the public's uneasiness and worry would escalate if health professionals could not answer all questions or if the public did not get all the information they sought from these workers. First responders emphasized their own crucial role in disseminating appropriate information:

“[I]n the States, all the services know what to do when something hits, but the public has no idea what to do. We've gotta get them [the public] aware of what to do.” (*Emergency Medical Technician*)

“And when people are asking us questions...when we say, ‘I don't know’, it just heightens the hysteria ...” (*Emergency Medical Technician*)

### *c. Information Seeking and Providing*

When health professionals were asked what the public would need to know in the event of an attack, some expressed a need for the dissemination of basic knowledge and precautionary information. They felt that the public did not need complex information, but simple, detailed directions on what actions they could take, which places they could go for help, etc.

“I would say safety precautions. Whatever they might be, just safety ...about symptoms and signs, so they would know places to go. Just anything for prevention or safety. Safety measures in the event that something happens or they're exposed.” (*Frontline Public Health Worker*)

“Any information leaked needs to lead to some sense of empowerment so the general public knows enough to feel comfortable in their own knowledge. You know if something happens. They know this is what I need to look out for. Knowledge in any situation. It doesn't necessarily need to be scientific. It needs to be on a level where people can understand the basics of any agent. They need to know enough to be able to take care of themselves.” (*Frontline Public Health Worker*)

“I pretty much agree with everybody else and I agree that they need to know where to seek treatment. They notice the signs or symptoms with that comes people thinking that they have stuff that they don't have. People freak out if they come up with a symptom and it's not what they think it is. They will go and seek treatment for things that they really don't need treatment for.” (*Frontline Public Health Worker*)

“How to heat their food. Heating their food and symptoms to look out for.” (*Frontline Public Health Worker*)

“The information's all gonna be the same. The problem is gonna be how you get it to them.” (*Emergency Medical Technician*)

“They're going to want to know where this outbreak was and how was it transmitted. What are the signs.” (*Frontline Public Health Worker*)

“They're also going to need to know where to go. Do I just come in and see you if you're of the health department? Where do I go to for treatment? That's what I'll want to know.” (*Frontline Public Health Worker*)

Details that health professionals personally wanted to know about the attack did not differ greatly from the information that the general public sought. They were just as concerned about the mode of transmission, those affected by the attack, the area in which they lived, and how to protect themselves and their family and friends. However, as health professionals, they also indicated a concern for the resources available following the attack and how to deal with the victims. They expressed a need to protect themselves and acquire as much information as possible in order for them to remain capable of helping the public during the attack. For example:

“I guess I will want to know what part of this city this was going on in, I would like to know if there were some way I could have been affected by this.” (*Frontline Public Health Worker*)

“What was the transmission method? Was it a type of food or type of water? Then I could avoid certain things.” (*Frontline Public Health Worker*)

“I would try to find out mode of transmission, those affected, in what populations and people who are affected.” (*Frontline Public Health Worker*)

“Going back to the agent, the host. Just as much information as you can find out. Like she said, the people mostly affected as well the mode of transmission.” (*Frontline Public Health Worker*)

“Being public health workers, we will be the ones that people would call with these questions so we need to know what types of training or what information to give people.” (*Frontline Public Health Worker*)

“After you know what the agent is, then you want to know the mode of transportation, so that we can protect ourselves. If we become infected then obviously we can not help anyone else.” (*Emergency Medical Technician*)

“I'm basically the same as them. [F]ind out how to protect yourself and family.” (*Emergency Medical Technician*)

“There's gotta be some way of rapid identification. I mean your gonna have casualties because something is gonna happen and people are gonna respond and that's just how it's gonna be. Your not gonna not respond to whatever the emergency is, you have a duty to act...” (*Emergency Medical Technician*)

“I think the other thing that we need to look at besides rapid identification of what we're dealing with, how are we gonna protect ourselves, the people that are contaminated, how are we gonna contain those people to keep this from spreading? Where are we gonna take these people? Whose gonna accept these people, whose not gonna accept these people?” (*Emergency Medical Technician*)

“What are we gonna do? Are we gonna need more resources to take care of this problem?” (*Emergency Medical Technician*)

Health professionals felt that the public would look to someone official to give them the appropriate information, and would watch television for specific directions.

“I can just picture it. They're going to want someone on the TV, the whole press conference. This is what's going on, maybe we can't tell them who did it, that is going to be a question, but this is what is going on, this is what you can do, this is what to do in this situation, just very basics of what you need to know and just a basic fact sheet that you can give them information on vaccines and treatments. You will need to have all of that at hand where we can pull it and not to rely just on web pages. Give them some sort of information so that they can spread the word themselves. They are willing to go for that type of information but personally, I go to CDC's web page.” (*Frontline Public Health Worker*)

“They'll call 911, and get the police department real quick.” (*Emergency Medical Technician*)

“I think their main source is gonna be the T.V., the media.” (*Emergency Medical Technician*)

In terms of where health professionals would go themselves to find information, some expressed that they would wait for a signal from superiors while others would use the Internet to find up-to-date information.

“I would expect that information to come down from our administration, but also I know...I mean personally I would be looking on the web site trying to find...on my own too.” (*Emergency Medical Technician*)

“I'd try CDC, or some place like that, some...some...a governmental agency, and try to get hold of them.” (*Emergency Medical Technician*)

As for the preferred place for both the public and health professionals to go to for information, participants expressed that health professionals would be expected to have relevant information, as well as respected government agencies like the CDC or the local health department. Participants were concerned about delivering accurate information to the public and felt that government entities also have a role in providing this service:

“The CDC is just an organization that I am familiar with. They have factual information if an outbreak or something happens. You don't want to give the public misinformation, so accurate information is very important at that time and that is a governmental organization that I'm confident in that I can find factual information about a variety of topics.” (*Frontline Public Health Worker*)

“We know that pertinent information passes or defuses among the people were really fast and misinformation travels fast so we want to make sure that we give out accurate information. Just telling one gatekeeper for one community, and the next thing you know one neighborhood believes one thing.” (*Frontline Public Health Worker*)

“[I totally agree] with the health department as well as any governmental association. Not only the CDC but locally I think the local health department probably should bear most of the burden.” (*Frontline Public Health Worker*)

“I think the health department but I also think you're going to have to have respected government leaders. If you have a smaller town the Mayor is really respected.” (*Frontline Public Health Worker*)

“I think the main reason I would be very willing to go to work is because hopefully they have more information here as to actually what we're dealing with and kinda get in that mood so that I would know how to protect my family and myself.” (*Emergency Medical Technician*)

### 3. Materials Pre-testing

#### *a. Comprehension and General Recommendations for Improvement of Materials*

The health workers felt that although the fact sheets were useful and understandable, they may also contain unnecessary information for the public. They wanted the information simplified and arranged in a straightforward manner, with pictures for clarification. Participants in the professional groups felt strongly about the length of the fact sheet and felt that the general public would not take the time to read and understand the entire document:

“It was very straightforward.” (*Emergency Medical Technician*)

“I agree totally that things are just dropped in. My question was is this one pamphlet or by the looks it could be the CDC's page. OK, if it's the CDC's page I understand because it's a lot of information. If it is the CDC's page that's understandable but for a fact sheet for the general public this was a lot of information.” (*Frontline Public Health Worker*)

“[T]he general public is just not going to read all of this.” (*Frontline Public Health Worker*)

“They need them shorter.” (*Frontline Public Health Worker*)

“I believe I can pick and choose out of here what is most useful. I don't think it would be useful for the general public.” (*Frontline Public Health Worker*)

“I think the stuff that looks like they were putting in was trying to make it into a terrorism document. This is sort of piecemeal put together. Questions about botulism like how many botulism toxins are there, that doesn't matter to people as long as there is one that can make them sick, that's all they want to know. There's just a lot of stuff that could be left out completely.” (*Frontline Public Health Worker*)

“I agree it's a great fact sheet. It tells you all you want to know about botulism so how can we change this to make it more powerful.” (*Frontline Public Health Worker*)

“I agree this is way too much information for the public. We need to cut it down.” (*Frontline Public Health Worker*)

Having visual aids was suggested many times by the emergency health workers as a more effective way to convey important directions and to keep readers interested.

“Visual aids.” (*Emergency Medical Technician*)

“Just graphics, of some sort, you know, stars next to important things ...” (*Emergency Medical Technician*)

“Eye catchers.” (*Emergency Medical Technician*)

The frontline public health and emergency workers also noted that the reading level of the materials was too high for the average public audience. Certain words were too complicated and needed more clarity. They also pointed out some unanswered questions regarding the spread of botulism and who to contact if an individual were to suspect that s/he had symptoms:

“I really thought it could have been broken down a little bit better. Words that may seem natural, and things that we may assume the general public would know - for instance, I circled spores. It may seem like a common word, but I think it could raise questions to the general public.” (*Frontline Public Health Worker*)

“I think you could put things in parentheses like places after toxins so that you don't turn off or alienate more educated people. But I think you have got to write it on such a low level. Eighth grade used to be the norm, now you have to write at a sixth grade level so that you can make sure that as many people as possible can understand it. There are things that are sort of thrown out there and dropped. People aren't given enough information.” (*Frontline Public Health Worker*)

“Get things cleared up and things need to be brought down on a fourth or fifth grade level at least.” (*Frontline Public Health Worker*)

“In this scenario we're talking about bioterrorism, but in the fact sheets there is no mention of bioterrorism. There's no information about how to use this in a bioterrorism attack, it just doesn't make a lot of sense. There is no link.” (*Frontline Public Health Worker*)

“Is it in the water, you know? How is it being spread? And in what source did they find it?” (*Emergency Medical Technician*)

“[T]hey need to know specifics about this particular attack and did it get into the food system, the water system, or whatever, and they need to know specific steps for that specific incident.” (*Emergency Medical Technician*)

“If you believe you have symptoms of botulism seek immediate attention. It doesn't really tell you where to call or where to go.” (*Frontline Public Health Worker*)

These workers also suggested distributing information to children in schools, with the idea that children will take it home and inform and remind their parents about what they have learned.

Information would hopefully “trickle up” towards parents and reinforce ideas that they have gathered themselves or gotten from other sources. At the same time, parents were expected to share precautionary information with their children.

“Professional parents like all of us in this room who are somewhat educated, there's a lot of parents out there, bless their hearts, who are very busy in making ends meet, so they don't have time to get this information, they don't spend the time to get this information...it's part of our job to get this information. But, if the CDC would get involved, with Homeland Security, and start training the children, because children are sponges anyway, the children will train the parents. The trickle effect will work both ways; us disseminating information, children getting information and coming home, and as long as their not panicking, parents won't panic.” (*Emergency Medical Technician*)

“[B]ecause usually if you teach the kids, they're gonna go home and tell mom and dad, and then mom and dad are gonna call grandma and grandpa, ‘guess what they learned in school today?’, and then it's just like a chain reaction.” (*Emergency Medical Technician*)

#### *b. Emotional Response*

Participants in the professional groups expressed that the public would feel more secure and less panicked after reading the information in the fact sheet. Furthermore, the public’s anxiety level would be decreased if they were presented with the important information in the fact sheets in an organized manner instead of having to search for the relevant sections. Words or phrases with unclear meanings were also thought to evoke fear or confusion, and participants felt that such words should be avoided or replaced with simpler ones. When asked how the materials made them feel or might make others feel, participants responded:

“Informed.” (*Emergency Medical Technician*)

“Less hysteria.” (*Emergency Medical Technician*)

“A little more secure, yeah.” (*Emergency Medical Technician*)

“Some information's better than none.” (*Emergency Medical Technician*)

“[I]t eases my mind a little bit about botulism.” (*Emergency Medical Technician*)

“This answers your questions, and you know, it’s not something that’s airborne, it’s not something you’re gonna catch from other people. There are precautions you can take do that you don’t get it, you know, and that puts you at ease.” (*Emergency Medical Technician*)

“Just reading through, there were some terms in the sheet that could cause them anxiety like ‘toxins’ and ‘dirty bombs’ and things like that. But also the missing information might cause confusion. It didn’t seem like the physicians know a lot about this.” (*Frontline Public Health Worker*)

“It sounds like there’s a lot of guess work and I’m not sure that would put people at ease. It’s difficult for anyone to sit there and look at it the way it’s laid out now and find any information that they need. If they can’t find the information, anxiety is going to boost.” (*Frontline Public Health Worker*)

### *c. Self-Efficacy*

The health workers interviewed believed that the fact sheets provided them with information they would need in order to answer questions posed by the public. However, some were skeptical of the public being able to carry out these recommendations on their own. Additionally, participants in the professional groups felt that the public should be given consistent messages in order to condition them to undertake preventive behaviors.

“We can answer the questions that ...the general public is gonna ask us.” (*Emergency Medical Technician*)

“Yea, this covers...pretty well covers what we would need to tell the public when they call in.” (*Emergency Medical Technician*)

“The simple questions they are gonna ask are right here. Pretty well.” (*Emergency Medical Technician*)

“The public information officers. This will be good for them so that they would know what to tell people in case they called with symptoms.” (*Frontline Public Health Worker*)

“[I]t keeps us calmer, it gives us the information to give to them to keep them calm.” (*Emergency Medical Technician*)

## **IV. DISCUSSION**

### **A. General Discussion**

Focus group interview discussions that focused on general preparedness, a hypothetical botulism outbreak, and response to botulism educational materials were generally well received by both general public and health professional (frontline public health workers and emergency medical technicians) participants. There was a sense among both groups that these issues are timely, and that not enough information regarding general preparedness and education is available to the public.

When the color alert system was discussed, participants expressed a number of views. Although they were generally familiar with the basic concept of the color alert system, most felt that it is not an effective or particularly helpful system for two main reasons. First, the fact that the color alert system is a national system contributed to participants' perceptions that it is too non-specific and unwieldy to be particularly useful at the local level or for general preparedness. Second, the color alert system was not attached to any actionable recommendations. Most participants were not only confused about the distinction between the colors in terms of level of threat but also about the recommended responses associated with each color. Therefore, even though attacks of one sort or another are considered to be inevitable and individuals are motivated to pay attention, information needs to be specific and relevant before it can be acted upon (specific agent, area, actions).

A related issue that arose in these discussions of the color alert system was desensitization. Overuse of a system creates desensitization to it as individuals become skeptical of the veracity of claims. As a case in point, it was interesting that only one person mentioned Homeland Security in regards to general bioterrorism preparedness, despite significant current campaigns under way by that organization.

The knowledge that focus group participants displayed reflects information they have heard in the news or in the media more generally, rather than any experiential or formal learning. Knowledge of biological, chemical, and radiological terrorism threats reflected a patchwork of impressions, stories and issues, but did not indicate a clear background in or understanding of

types of agents and modes of transmission. Nuclear attacks were viewed to pose the greatest risk as they potentially involve the most number of victims, but participants were familiar with the potential lethality of chemical and biological attacks as well. The concept of “shelter in place” was generally misunderstood, as many respondents thought it meant relocation to a basement, bomb shelter, or shelter for disaster victims.

There was little awareness of the symptoms of botulism although there was some awareness that this is a serious condition. Overall, participants lacked knowledge regarding the specifics about botulism, how it is prevented, the signs and symptoms of the disease itself, disease progression, emergency measures and a host of other botulism-specific issues. This makes some sense, since botulism has become a fairly rare condition as food processing practices have improved. Certainly, though, now is the teachable moment vis a vis disaster preparedness.

Although awareness about the specifics of botulism was low, it is important to note that participants had the greatest knowledge and awareness about biological threats than chemical and radiological, mainly in terms of transmission and symptoms. This is most likely due to participants own personal experiences with biologically based illnesses and infections (e.g. flu, food poisoning, etc.). The suggestion here would be that the ability to make a connections to previous similar experiences (i.e. food poisoning) increases understanding of potential events unfolding under bioterrorism context.

There was notable recognition by most participants that they are uninformed and do need more knowledge. For example, as one participant said:

“A biological threat is too scary. ...That’s why it would best to be more specific. If you are going to announce something, tell us what it is and what to do about it, what we can do to prevent from getting the disease or whatever it is; the viruses, the bacteria, whatever. It’s better that you know. Knowledge is power.” (*Urban Asian*)

As the scenarios rolled out, the first categories of responses were emotional and the distribution of responses fit what we know about responses to risk and threats. When the threat or risk level is uncertain, out of one’s control, and manmade, risk perception theory tells us that persons are

much more upset than in a certain, controllable, natural situation. Not only are persons in a heightened state of anxiety, but there is also a great need for more information. A small number of individuals will become more hopeless and helpless or be less able to cope. There is also a fear of not being able to handle the stress. The popular notion of “panicking” comes from this fear. The actuality, however, is that very few persons panic in a true crisis.

Clearly, there was a great deal of trepidation and concern. At the same time, participants felt they are lacking specific knowledge that could assure some degree of safety or survival. Thus, there was some degree of cognitive dissonance – participants were concerned but not well prepared at very basic levels. Scenarios also provoked a great deal of speculative thinking. While a majority of persons expressed the feeling that they would survive an attack, there was a substantial minority that always expressed more pessimism about their personal outcomes. Persons were much calmer and more rational once it was known that the outbreak was not contagious and was contained.

There was also some degree of stigmatization of outsiders or those who are foreign and are somehow linked to the threat (i.e. through media). Although awareness of terrorists and/or terrorist-related threats heightens individual awareness about bioterrorism preparedness, this stigmatization and/or preoccupation with “terrorists” might, conversely, divert energies away from realistic individual preparedness and response strategies and activities (e.g. cooking food at correct temperature). Not to mention, stigmatization and racial profiling, as perpetuated in the media, may also lead to ineffective community organizing and collaboration around bioterrorism preparedness.

There seemed to be some knowledge about what is involved in an epidemiological outbreak investigation. Participants also voiced belief that systems are in place that can effectively cope with the impact of a disaster or terrorist event. They also expressed the expectation that there will be hotlines and phone numbers to call for information.

There was little knowledge of what actions to take in the situations described in the scenarios. Participants’ action statements initially conformed to what we know about disasters more generally. When individuals are confronted with typical disaster scenarios (blizzards, hurricanes,

storms) a typical response (which is to some degree ritualistic) is to go out and stock up on food and water, even though the household may have a sufficient supply. The fact that botulism is a food borne illness clearly put a wrench in that action pattern for many persons as they realized they did not know what foods were safe to buy and consume. In our hypothetical case, there were some participants that, after learning that botulism was being transmitted through food, made remarks about completely discontinuing the use of canned food products. Although precautionary actions are recommended, inappropriate and excessive measures (such as discarding affordable food products) can place a burden on more economically disadvantaged groups. If protective measures do involve discarding food on hand, there should be some system in place for those that do not have access to other sources of food products or otherwise need assistance with securing alternative food items. Other actions discussed suggested that participants realized that evacuation was not needed.

Information seeking also followed predictable pathways. Participants turned to broadcast news first, and as the event continued they also used different media such as the Internet or the newspaper to obtain more news and information. It was apparent that participants were not active information seekers prior to an event occurring. In terms of pre-event messaging, they required a more passive approach to learning; for example, obtaining messages posted on buses, grocery stores, and other contexts that provided an easy and quick learning environment.

Information from the fact sheets that was most salient, based on participant responses, was the specific set of instructions about boiling water and preparing food. Participants were appreciative of obtaining the fact sheets prior to an event but were concerned that there was a lot of information about different forms of botulism. The biggest gaps in the information presented were in the transmission and treatment aspects of botulism. Participants wanted materials that were better organized and more prevention-focused. Also, there was a great deal of curiosity about the threat itself and how terrorists could use botulinum toxin to carry out an attack.

Questions arose surrounding the sophistication of language, or formats that did not seem to be straightforward. Long technical terms were lost on many persons. Group participants wanted bigger fonts, more pictures and graphics, and “headlines” or bulleted points. They also expressed a desire for links to other sources of information. Some wanted to be able to call an 800 number.

The primary implication of these finding is that materials should be structured according to what the target audience wants to hear. First, tell persons what to do or not do (actionable messages), then tell persons why (epidemiology), then at the end assure individuals that there are persons and agencies who have specific roles and are carrying them out (organizational assurance). Do not start with the epidemiology, as when person are stressed they will not process this information and it will be seen to be irrelevant to what they want to know. Once persons are assured of their own survival, then the more technical information may be discussed. Contacts, links, organizational websites, etc. may then follow.

## **B. Study Limitations**

The participants in this study represent a non-random convenience sample of the population, thus limiting the generalizability of the findings. However, there is much discussion in the literature about the use of non-probabilistic sampling techniques. In probability samples, each member of the population has an equal chance of being included in the study. The most common uses of a probability sample are to determine distribution in a population and to test the relationships between variables. However, a primary limitation of this type of sampling is that it cannot easily be used to obtain information about the meaning of a construct (Morse, 1986).

The assumption underlying the use of non-probability sampling is that not all subjects experience the phenomenon of interest in the same ways. In qualitative research, sample size is dependent upon the purpose of the inquiry. In-depth information from a small target population is the desired outcome rather than dilute information from a large number of subjects. In a project such as this one, the researcher's main emphasis is on understanding and identifying explanatory models and cultural constructions which will in turn facilitate the crafting and delivery of messages important to the continued health and well-being of the public. In addition to other issues, the validity of the study after its completion depends upon the richness of the information obtained, and the observational and analytic skills of the researchers (Patton, 1990).

## **V. RECOMMENDATIONS**

The following summarizes recommendations gleaned from focus group research and expert analysis on botulism. A detailed Creative Brief is included in Appendix A.

### **A. Organization of Botulism Message Materials**

We are recommending three main steps for organizing the development of informational materials on botulism for the general public. First, determine how many sets of materials will be needed. For example, it would be helpful to have a set of materials on food borne botulism, another on wound botulism, one on infant botulism, and a fourth on deliberate release of botulism toxin into the environment (food, water, or air). Because each are special cases and not likely to be applicable in a wide-spread outbreak of botulism, we recommend that these be separated out to avoid confusion and information overload. For the second step, within each of these sets of materials, decide what the core message sets will be. And finally, organize the message sets and messages within each set logically. More specific recommendations about the organization of messages are discussed below.

### **B. Content of Botulism Message Materials**

The key promise of the sets of botulism messages should be that most persons recover fully from botulism toxicity if symptoms are recognized, medical care is promptly sought, and correct diagnosis and treatment are received. Individuals also need to be assured that protective actions taken at individual and household levels can minimize risk of exposure and potential illness.

More specifically, if there is a bioterrorism event involving botulism, the public will immediately need to understand the seriousness of the threat, and when and how to respond. Therefore, key messages that will facilitate appropriate and timely action by individuals should be in the first message set. These messages should address:

- ◆ seriousness and “location” of the threat
- ◆ symptom recognition of botulism toxicity for adults and infants
- ◆ potential means of exposure
- ◆ what to do if exposed, or if symptoms of toxicity are present
- ◆ protective actions to take to prevent exposure to self and others

Secondly, it is important to assure individuals of treatment efficacy and outcomes. The public wants and needs to know that there is help for persons suffering from botulism toxicity. Key messages in this second set should address: diagnostic procedures, treatment goals and means, treatment availability, and recovery.

A third set of messages should facilitate understanding of the botulism and transmission, including potential methods of dissemination, routes of exposure, dose response time, etc; in other words, the epidemiology. While this information is important and some individuals are very interested in learning about it, it is secondary to the information individuals need immediately to take protective actions and seek treatment when needed.

Finally, a fourth set of messages should provide information on system level responses, credible sources of information, and ways to access these resources (i.e. website addresses and 800/tollfree numbers). These messages address the public's desire and need to know what is being done and by whom, as well as where persons can obtain additional information or verify the information they already have.

### **C. Message Language and Formatting**

Messages need to be informational, without being too dense or complex. We also recommend the use of 1) simple, non-technical language whenever possible, 2) simple sentence structure, 3) graphics and pictures, and 4) formatting that helps highlight key messages such as bulleted lists, bolded font, etc. In addition, message materials need to be available in a different languages.

### **D. Message Material Formats**

Messages may take the form of fact sheets, television video news releases, radio news releases, and/or interactive multimedia for a website. For some of these, it may be appropriate to use a journalistic or documentary style. We strongly recommend having messages in multiple formats so as to reach the widest audience possible, keeping in mind that key messages need to be kept consistent across the different media used. Whatever the format, message materials should take into account general lack of familiarity with the topic of botulism as well as issues of low literacy and non-English speaking populations.

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## **VII. APPENDICES**

## Botulism Creative Brief – 01/14/04

### 1. Target Audience(s)

General public audience: Persons living throughout the U.S. potentially exposed to *C.Botulinum*

### 2. Objective(s)/Key messages

*To help individuals (who are not health professionals) recognize symptoms and respond promptly:*

- SYMPTOM RECOGNITION FOR CHILDREN AND ADULTS: To assure that persons are knowledgeable about symptoms of botulism toxicity that may present as dryness of the mouth, inability to focus eyes, blurring vision, facial paralysis, respiratory distress, increasing paralysis in upper body. Also to stress that naturally occurring botulism is rare.
- SYMPTOM RECOGNITION FOR INFANTS: To assure that parents of young children are knowledgeable about botulism symptoms in infants that include poor feeding, decreased muscle control, constipation, diminished crying and suckling responses/respiratory distress. Also to stress that naturally occurring botulism is rare.
- DISEASE PROGRESSION: To describe the trajectory of botulism toxicity, affecting the individual by progressive neurological paralysis of the individual from the head down through the body so that bodily functions (e.g. breathing) cease.
- ACTIONS: To define immediate actions of seeking emergency medical care.
- PERCEIVED THREAT: To stress the severity of botulism toxicity: lack of action or treatment can lead to death of exposed individual. Current mortality rate is 5% among those treated. Much higher among those not treated. Also to stress that botulism is not communicable from person to person as it is most often food borne and transmitted through contaminated foods or liquids.

*Individuals are assured of medical treatment efficacy and outcomes:*

- TREATMENT GOAL: To explain that goal of medical treatment is to stop the progression of paralysis so that bodily systems do not stop functioning.
- MEANS OF TREATMENT: To describe administration of botulism antitoxin to stop disease progression and the placement of patient intensive care to

## Botulism Creative Brief – 01/14/04

support vital bodily functions such as breathing.

- **DIAGNOSIS:** To explain that extensive medical testing is required to rule out other diagnoses.
- **AVAILABILITY OF TREATMENT:** To assure that there is sufficient botulism antitoxin available.
- **RECOVERY:** To describe recovery as slow and taking many weeks. However, recovery can also be complete if a person receives prompt and appropriate medical treatment.

*Individuals understand the types of botulism and modes of transmission:*

- **TYPES OF BOTULISM:** To describe four types of botulism: 1) food borne botulism in children and adults; 2) infant botulism; 3) wound botulism, a rare condition seen mainly in IV drug users; and 4) deliberately released botulism toxin (bioterrorism).
- **TRANSMISSION:** To teach persons that they can contract botulism if they eat contaminated food or water, or breathe in air that contains *botulism toxin*.
- **EXPOSURE:** To teach persons that even ingesting a small amount of botulism toxin can cause a person to become ill. Therefore suspect foods or water should not be “tested” by tasting.
- **DOSE RESPONSE TIME:** To convey the notion that persons exhibit symptoms 12 – 36 hours after ingestion.

*Individuals can take safety precautions to prevent exposure and illness or to prevent naturally occurring botulism:*

- **PREVENTIVE ACTIONS:** To describe the major preventive actions that can be taken. These will differ depending on the type of botulism (food borne, infant, wound, or bioterrorism). They may include boiling food and water to 167 degrees Fahrenheit (80 degrees Centigrade) before eating or drinking; following proper canning techniques, including using sufficient time, pressure, and temperature for home canned food to destroy botulism spores; refrigerating incompletely processed foods; avoiding unfamiliar or unopened food; avoiding canned foods with bulging lids or those with offensive odors; not giving honey to infants under one year.

# Botulism Creative Brief – 01/14/04

## 3. Obstacles

- Botulism is rare: persons who have no medical training are unlikely to be familiar with this agent; therefore, remembering symptoms or how it is transmitted without reminders is unlikely.
- Symptoms may be confused with many other illnesses including Myasthenia Gravis, stroke, Guillain Barre syndrome, bacterial and chemical food poisoning, chemical intoxication, tick paralysis, allergic reaction to medication, poliomyelitis, diphtheria and mental illness.
- Routine medical tests do not necessarily isolate the illness; more specialized tests are needed to rule out other causes.
- Foods or other sources which caused the outbreak may still be in the environment, putting others risk.
- Naturally occurs in populations that are hard to reach, such as rural and immigrant populations who do their own home canning, Alaska native populations who may practice improper preparation and storage of foods, IV drug using populations who get botulism from unhygienic injection practices.
- Actions taken by individuals may counter needs of epidemiological investigations; not all foods should be discarded prior to completion of an outbreak investigation.
- In a large outbreak, there may be insufficient surge capacity in local intensive care units to handle demand.

## 4. Key Promise

Most persons recover fully from botulism toxicity if symptoms are recognized, medical care is promptly sought, the correct diagnosis is made, and treatment is received. Taking protective actions at individual and household levels can minimize risk of exposure for all household members.

## 5. Support Statements/Reasons Why

- Botulism left untreated can be fatal.
- Botulism is not communicable from one person to another.
- There are concrete things people can do to protect themselves.
- Protective actions are not complex or costly.

## Botulism Creative Brief – 01/14/04

- If there is an outbreak, there are systems in place (public health, medical) that will identify the source of the outbreak as well as diagnose and treat suspected cases.
- There is sufficient botulism antitoxin nationally to treat persons in either naturally occurring or larger outbreak circumstances.

### 6. Tone

Informational tone must not be too fast paced to account for lack of familiarity with the issue as well as to address the needs of lower literacy persons. Use journalistic or documentary realism formats; serious but not dark. Fact sheets or television video news releases (VNRs) should have shots or pictures of families, parents, children, young adults, and elderly to stress that this can affect anyone and to emphasize the 'protect your family' theme. Realism should be interspersed with cut-aways to animated graphic depictions of the toxin and its impact on the body. These can also be used in printed materials by the use of graphic illustrations of the bacteria and how it impacts the body. Also graphic depictions of symptoms in adults, children, and young infants, can be animated for use in video. Animated graphics should be realistic. The bulk of the video should be action shots with voiceovers. Avoid too many 'talking heads'.

### 7. Media

Fact sheets, television video news releases, radio news releases, and/ or interactive multimedia for a website.

### 8. Openings (mainly for the video news release)

*Immigrant and native populations*

*Parents of infants*

*Families with young children*

*Healthcare providers*

*Experts – outbreak EIS officers*

*Animated Graphics with disease progression and symptoms portrayed*

*Hospital intensive care units*

*Cans of food in stores/ cans of food in households*

*Home canning activities in households*

# Botulism Creative Brief – 01/14/04

## 9. Creative Considerations

The first part of the presentation, whether print, video, radio or multimedia, needs to stress the symptoms, the treatment, and the urgency of actions to save lives. Graphics (either print or animated) should be used to depict disease progression and symptoms. For the video, there is a need to interface families, individuals with medical backdrops, and action in the medical sphere (laboratory tests/ bottles of anti-toxin/ respirators/ supportive care). Do not start with too many definitions, categories, or qualifying statements (typical scientific lead-in), as this information is not the most important message for impacted populations. Be sure to include examples or “cases” of both adult and infant botulism. Also stress that (most often) this is a food borne disease and the likelihood of catastrophic spread is low if persons stop eating and drinking foods suspected of being contaminated.

Stress the long recovery time and need for support of stricken persons. Then cut to depictions of typical sources of botulism. Stress actions that prevent the illness both pre-outbreak and post-outbreak (such as cooking and boiling food to specific temperatures). Don't dwell too much on correct canning as this could be a time vacuum for getting the most important messages out.

End with depictions of outbreak investigations (lab workers, white coats, EIS officers) to assure that botulism cases are closely monitored by the CDC and local and state health departments.

As an alternative to a generic botulism communication (given that there are four distinct types of botulism) it might be better to create four sets of materials for the four types of botulism: a) food borne botulism, b) infant botulism, c) wound botulism, and d) bioterrorism. These materials could be more targeted to specific populations with specific messages. There could be a generic botulism messages for children and adults, an infant botulism messages for parents and caretakers of young children, and wound botulism messages for IV drug users.

Messages need to be in English, Spanish and other languages.

**NOTE:** All creative Briefs **must** be accompanied by a page summarizing the background situation.

## Appendix B: Pre-tested Botulism Materials

### Frequently Asked Questions about Botulism

#### General

#### What is botulism?

Botulism is a rare but serious illness. It is caused by a toxin (poison) that affects the nervous system and is produced by a bacterium.

#### **What causes botulism?**

- Botulism is caused by infection with a germ called *Clostridium botulinum* (pron. klos-TRi-dee-um bot-u-LINE-um). These type of bacteria are commonly found in soil throughout the world.
- The bacteria form spores. Under certain conditions, these spores can make a toxin. This toxin causes the botulism illness.

#### If the spores are found in the environment, why don't more people get sick?

- We come into contact with spores every day. We don't usually become sick because these spores have not been able to make the toxin that causes illness.
- Certain conditions must be present to allow the spores to make the botulism toxin. Some conditions include
  - lack of oxygen
  - enough nutrients to live on
  - appropriate temperature
  - low acid level
  - low salt level
  - low sugar level

#### **How many types of botulism are there?**

There are three major types of botulism:

- **Foodborne** – This type of botulism is caused by eating a food item that contains botulism toxin. This most often happens when people eat home-canned foods (such as green beans, mushrooms, tomato juice, and fish) that have not been properly prepared.
- **Infant** – In children less than 12 months of age, the gastrointestinal and immune systems are not fully developed. Because of this, botulism spores consumed by an infant survive and grow in the infant's intestines. The spores make the toxin that causes the infant to develop symptoms of botulism.

- **Wound** – If someone gets a deep wound with dirt ground into it and the wound does not get enough air, the bacteria can make the toxins. This kind of botulism most often occurs in persons who inject heroin and other drugs into their skin, fat, and muscle.

#### Is there more than one type of botulism toxin?

There are seven types of toxin (A through G), but only the types A, B, E, and F have been shown to cause illness in humans.

If I get some food that is contaminated with botulism toxin, will I be able to know by seeing, smelling, or tasting it?

You cannot tell if food is contaminated with botulism by looking at, smelling, or tasting it. Other bacteria may be present and they may produce a bad odor. If you are concerned about a food item, do not eat it. Cook foods so that the inside food temperature is at least 185° Fahrenheit (85° Celsius) for 5 minutes. Boil all liquids for 5 minutes before consuming them. If a botulism outbreak occurs, health officials will alert the public. Following these precautions will destroy the botulism toxin.

#### **Are persons with immune problems such as HIV infection or cancer more likely to become infected than other persons?**

There is no evidence that persons with HIV infection, cancer, or other conditions that affect the immune system, are more likely to develop botulism. However, person in a weakened condition or with breathing problems may become seriously with botulism quicker than other people.

I've heard of dirty bombs being used to spread radioactive material. Can these be used to spread botulism toxin?

It is highly unlikely. The toxin is killed by heat, and the heat caused by a bomb would kill the toxin on impact.

#### Can my pet get botulism?

Some animals can develop botulism, but it is rare in dogs and cats. Development of botulism depends on several factors including: the type of botulism toxin, the type of animal, and whether the animal was exposed to contaminated food or water. If the public has been advised to boil liquids and cook food before drinking or eating, you should consider following the same precautions for your pets. Ill pets should be taken to a veterinarian.

If I hear about an outbreak of botulism, is it safe to travel to another area to avoid the outbreak?

You are not restricted in travel. However, you may want to keep in mind that if you were already exposed to botulism toxin, you may get sick while traveling. Whether you are driving or

are a passenger in a car, plane or other vehicle, this could be particularly dangerous. If you develop symptoms of botulism while traveling, you should seek medical attention immediately and inform your medical care provider of your travel history and possible exposure.

### Transmission

#### **Can botulism be spread from one person to another?**

No. Botulism is not contagious. You cannot get it by touching another person, by contact with body fluids, or through sharing eating and drinking utensils.

#### Can I get botulism from a blood transfusion?

This is highly unlikely. Persons who give blood are asked a series of questions about their health. This health screening process would rule out the possibility of getting botulism from a blood transfusion.

#### Can botulism be spread from an infected mother to her unborn infant?

There have been no reported cases of botulism being passed from an infected mother to her unborn baby.

#### Is it safe to breastfeed if I have been exposed to botulism?

Botulism toxin has not been found in breast milk. If you are breastfeeding an infant and become ill with botulism, you should seek immediate medical care.

#### Can I get botulism through body fluids if I perform CPR or first-aid on someone who may be sick from botulism toxin?

No. You cannot get botulism from blood, saliva or other body fluids.

#### **Can I get botulism from getting injected with Botox?**

The amount of toxin in “Botox” is very small. It is possible to get symptoms like botulism if too much “Botox” is injected and if it is improperly injected. This is very uncommon.

### Symptoms/Progression

#### What are the symptoms of botulism?

The symptoms of botulism may include double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing, or dry mouth. If untreated, these symptoms usually worsen and can progress to muscle weakness and paralysis of the arms, legs, trunk, and muscles of the

respiratory system (lungs). If you develop the symptoms of botulism, you should seek medical attention.

#### Are the symptoms different for infant botulism?

Yes. Infants with botulism may have the following symptoms: severe or prolonged constipation, difficulty eating or drinking, weak cry, poor muscle tone, or lethargy. If your baby suddenly develops symptoms common to botulism poisoning, you should take your baby to be evaluated by a medical professional.

#### How long does it take for botulism illness to occur?

In food borne botulism, the symptoms usually begin from 18 to 36 hours after eating contaminated food. However, the symptoms can occur as early as 6 hours or as late as 10 days after exposure to the toxin.

#### Prevention

##### **How can I prevent botulism?**

Heat destroys the toxin made by the botulism bacteria. Once the toxin breaks down after being exposed to heat, it is harmless. Food can be eaten immediately after cooking the food to at least 185° Fahrenheit (85° Celsius) for 5 minutes.

#### How do I know if I am canning my foods properly?

The U.S. Department of Agriculture has produced a safe home canning guide that can be accessed at <http://extension.usu.edu/publica/foodpubs.htm>

##### **How can I prevent wound botulism?**

- Clean all wounds with soap and water or a wound disinfectant
- Seek immediate care for infected wounds.
- Do not use illegal injection drugs.

##### **If an outbreak is reported, how do I kill the toxin in liquids and foods if contamination is suspected?**

Health officials will notify the public of an outbreak. Boil all liquids and cook all foods until the exact cause of an outbreak of botulism is known. You should use the following precautions:

- *Boil liquids.* You need to boil liquids for at least 5 minutes. You should see large bubbles coming from the bottom of the pan for 5 minutes.
- Water, tea, soup and other liquids should be boiled before drinking. This includes bottled water. Liquids should be cooled down after boiling to prevent possible burns.

- Milk, juice, and other liquids should be boiled or avoided until health officials let the public know that they are safe. This includes alcoholic beverages.
- *Cook solid foods like fish or meat* that **cannot** be boiled. Cook these foods by baking, broiling, frying, or microwaving. It is important that the **inside** food temperature be at least 185° Fahrenheit (85° Celsius) for 5 minutes. An instant-read food thermometer (available at most grocery stores) should be inserted into the middle of the food to make sure that the temperature is high enough for at least 5 minutes. The US Department of Agriculture has provided guidelines about the proper use of a food thermometer at [www.fsis.usda.gov/oa/thermy/placement.htm](http://www.fsis.usda.gov/oa/thermy/placement.htm).
- Freezing does not kill the botulism toxin. Frozen foods should be cooked to at least 185° Fahrenheit (85° Celsius) for 5 minutes until public health officials say they are safe. Water used to make ice should be boiled for 5 minutes before freezing.
- The toxin remains stable in alcoholic beverages (beer, wine, whiskey). These beverages should not be drunk until public health officials say they are safe.
- Remember: **boil it, cook it, or forget it!**

#### **If I filter my water or treat it with iodine, is it safe to drink?**

Filtering will not make contaminated water safe from botulism. Treating contaminated water with iodine could make it safe, but this is not recommended. In the event of an outbreak, all water should be boiled for at least 5 minutes before it is consumed.

#### **In the event of a botulism outbreak, can I use water for bathing or brushing my teeth?**

- You can use water that has not been boiled for bathing and washing your hands.
- You should use boiled water for brushing your teeth.
- You should use boiled water for children who might swallow water while bathing or brushing their teeth.

#### Diagnosis

##### How is botulism diagnosed?

- Physicians should consider the diagnosis if the patient's history and physical examination suggest botulism.
- Other diseases such as Guillain-Barre syndrome, stroke, and myasthenia gravis may have symptoms similar to botulism.

- Special tests may be needed to find the difference between botulism and other diseases.
- Tests of stool and blood performed in special labs can identify the botulism toxin. Physicians treat patients for botulism when their evaluation indicates that this is the most likely cause of illness. They cannot wait for results of diagnostic tests because these tests take days to weeks to perform.

### **Are any quick tests available that could be used to diagnose botulism?**

CDC does not recommend the use of such tests. They have not been proven to work and may give false readings. People who have symptoms of botulism should seek the advice of their medical doctors.

### **How do I find a doctor who knows how to recognize the signs of botulism?**

If you believe you have symptoms of botulism, you should seek immediate medical attention from a qualified health professional. Your state or local health department may be able to recommend specific referral centers.

## Clinical Management

### What happens to someone who has become ill with botulism?

- Early diagnosis is critical. People with symptoms of botulism who seek early medical care usually have a better recovery.
- Administration of antitoxin soon after symptoms begin can help lessen the severity of the illness.
- Most patients with botulism are hospitalized and may need to use ventilators to help them breathe.
- Hospital stays vary and can range from a few days to months depending on how quickly the breathing muscles begin to work again.
- Death can occur in about 8% of people with botulism, usually because of respiratory failure.
- Good supportive care is the key to recovery for someone with botulism.

## Treatment

### **Is there a cure for botulism?**

There is not a cure for botulism. The most important treatment for persons with botulism is supportive medical care, which might include breathing support from a respirator. However, once breathing support is provided, time is the most important medicine. The human body can fight the effects of botulism if it is given enough time. In some instances, botulism antitoxin may be helpful. The antitoxin can decrease the duration of paralysis or the amount of time that a respirator is needed, but it does not “cure” the disease.

**Is there a vaccine for botulism?**

No licensed vaccine is available at this time. Vaccination is not considered an effective public health measure for a botulism outbreak or bioterrorism event.

**Do infants who have botulism receive the same medical treatment as adults?**

Yes. Infants and adults both receive supportive care and antitoxin as indicated for their symptoms.

**If there is a terrorist attack using botulism toxin, how will hospitals handle it?**

Many partners at all levels -- community, federal, state, and local – will work together in an emergency. These partners are developing plans to respond to attacks using biological weapons, such as botulism toxin. Plans include healthcare workers, health facilities, and public health authorities.

Inactivation/disinfection

**If botulism bacteria are present on a surface such as a household countertop, will cleaning with a disinfectant kill the bacteria?**

Average household bleach mixed with water (1 part bleach/10 parts water) is a good disinfectant that can be used to clean surfaces, such as kitchen countertops, floors, etc.

## Appendix C: Botulism Focus Group Guides

### Appendix C1:

#### Focus Group Discussion Guide for General Public Audience Segments Botulism Information Materials Pre-Test

#### PRELIMINARY FORMATIVE RESEARCH STAGE

##### Introduction

Hi, my name is «your name» and I work for «UCLA». I'd like to thank you for volunteering to help us. We are developing informational materials regarding possible emergency situations. We have asked you to come here today to think about these situations and look at some of our materials. We are very interested in your opinions. Please note that there are no right or wrong answers, only different ideas. So please be honest and share what you think. I am not an expert in these subjects and I am not the person making the materials — so please do not worry about hurting my feelings! Please note that we will provide materials at the end if you want information about specific topics that come up in the discussion. We will tape record this session to allow us to really pay attention to what you are saying and still have good notes. Nobody will listen to this tape except our staff and we will destroy it as soon as we have made a transcript and notes. Nobody's name will be used in either the tape recording or the transcript.

Are there any questions before we begin?

##### Icebreaker/introductions

Please tell your first name (only!) and one thing about yourself that you think people might find is surprising.

***Pre-Event Knowledge, Attitudes and Responses.*** Recently there has been news about potential terrorist threats, and President Bush has instituted a color alert system for terrorist attacks.

##### *Questions:*

- Please describe what the color alert system means. Has anyone heard of the color alert system?
  - PROBE: What does it mean?
- What are the kinds of things you can do to protect yourself from a terror attack?
  - PROBE: Where do you find information about protecting yourself?
- What is the public health system?
- How would you expect the public health system to respond if there were a terrorist attack?
- There are different kinds of terrorist threats. If I told you there was a *chemical* threat, what would that mean to you?
- If I told you there was a *radiological* threat, what would that mean to you?
- If I told you there was a *biological* threat, what would that mean to you?
  - PROBE: What difference does it make if the threat can be spread from person to person?

## ***Scenario Rollout***

*Instructions:* For the remainder of the focus group, please note that we will be talking only about «biological» threats. Now, I am going to walk you through a made up story about what might happen if a «biological» weapon were used right here in «Los Angeles». There are four parts to the story. After each part, we'll talk about your reactions and thoughts. I will read the story out loud. Please remember that what I'm telling you is made up. This is not happening now, and we hope it will never happen.

### **Scenario, Part 1: Non-Specific Agent**

You wake up at about 7 am on a Tuesday and turn on the local news to hear that President Bush has raised the Homeland Security Advisory System threat level to severe (red). The president and his advisors report that this change in the national threat level is based on knowledge of a credible threat that a terrorist group may be planning a biological attack in «Los Angeles». Officials suspect that the attack may involve a biological weapon.

#### *Questions:*

- Tell me how you would feel about this news?
- What would you want to know?
- What would you do?
- Where would you go to get more information?
  - PROBES: Why would you turn to these sources?
  - Who do you think is the best source of information in the event of an attack?

### **Scenario, Part 2: Symptoms**

A week later, early on a Monday afternoon, you turn on the radio and hear that 15 people in «Los Angeles» have presented at local emergency rooms and doctors' offices with blurry vision, heavy eyelids, difficulty speaking and swallowing, weakness, and facial paralysis. Although the cause has not been confirmed, these symptoms are consistent with botulism. Botulism is a toxin that affects the central nervous system and is spread through food and water.

#### *Questions:*

- Tell me how you would feel about this news?
- What would you want to know?
- What would you do?
- Where would you go to get more information?
  - PROBES: Why would you turn to these sources?
  - Who do you think is the best source of information in the event of an attack?

### **Scenario, Part 3: Specific Agent + Symptoms + Response**

Later that same day, you turn on your TV to find that a local government official has issued a statement. She confirms that there has been a deliberate release of a biological toxin in «Los Angeles» and the agent has been confirmed to be botulism. It was believed to have been released through a food source still under investigation. So far, there are 30 presumed cases, however more persons in «Los Angeles» are potentially poisoned. Local health workers and

emergency personnel are working to contain the problem by continuing the investigation outbreak, administering antitoxin, and providing supportive therapy for those infected.

*Questions:*

- Tell me how you would feel about this.
  - PROBE: Why do you feel the way you feel?
- What would you want to know?
  - PROBE: Would you want to know that there was enough medicine available?
- What would you do?
  - PROBE: If you were NOT exposed, would you still go to the doctor for treatment?
- Where would you go to get more information?
  - PROBES: Why would you turn to these sources?
  - Who do you think is the best source of information in the event of an attack?

***BT information seeking behavior***

*Questions:*

- How confident are you that there are systems in place that will respond in a way that keeps you safe?
- How confident are you that your elected state and local government officials will respond in a way that keeps you safe?
- What could the medical and emergency responders do to make you feel more secure?
- If you were the mayor of your city or town, what would you tell people in the event of an attack?

**FACT SHEET PRETESTING STAGE**

**Scenario, Part 4: Release of information**

**\*\*(Note: Using CDC FAQ)\*\***

Local officials release information with recommendations for steps you can take to protect yourself from botulism. Now we are going to show you some materials of the sort that might be released should such an attack like this ever happen. Please give us your honest thoughts, feelings and responses to these materials, responding to questions in a number of areas. Again, please keep in mind that there are no right or wrong answers; we are just looking for your reactions.

Do you have any questions?

***Comprehension***

Please look at the «fact sheet» with recommendations for what to do in case of an attack.

*Questions:*

- What do you think are the main points of this fact sheet?
- After reading this message what questions do you have about botulism?
- What parts of the message were unclear or difficult to understand?

- PROBE: Were there any parts of the message you had to read twice, or that didn't make sense to you the first time you read them?
- Based on these messages, what action would you take in the event of a botulism outbreak?
- Is there any information you would want to know that is not included in the fact sheet?
  - PROBE: How is this agent spread?
  - PROBE : How is a case of botulism confirmed ?
  - PROBE : What would you do to protect your family?
  - PROBE: What would you do if you think you are poisoned?

### ***Emotional response***

#### ***Questions:***

- How does the information we shared make you feel?
  - PROBES: What about these messages makes you «emotional response to previous question»?
  - How could we change this message to make it less (or more) «emotional response» provoking?
  - REPEAT PROBES ACCORDING TO EMOTIONAL RESPONSES RECORDED.

### ***Believability***

#### ***Questions:***

- How believable is the information in this fact sheet?
  - PROBE: Why? Or what makes you say that?
- What, if anything, would make this information more believable?
- Is there anything here that you think is not being disclosed?

### ***Self-Efficacy, Response Efficacy and Behavioral Intent***

#### ***Questions:***

- How confident are you that the actions recommended in the fact sheet will keep you safe?
  - PROBE (if needed): Why or why not?
- How confident are you that you can carry out these recommendations?
  - PROBE (if needed): Why or why not?
- Which, if any, of the recommendations do you intend to follow?

### ***Recommendations for Improvement***

#### ***Questions:***

- Do you have any other recommendations to make this fact sheet better or more useful to you?

## Appendix C2:

### Focus Group Discussion Guide for Public Health Professionals Botulism Information Materials Pre-Test

#### PRELIMINARY FORMATIVE RESEARCH STAGE

##### Introduction

Hi, my name is <<name>> and I work for UCLA. I'd like to thank you for volunteering to help us. We are developing informational materials regarding possible emergency situations. We have asked you to come here today to think about these situations and look at some of our materials. We are very interested in your opinions. Please note that there are no right or wrong answers, only different ideas. So please be honest and share what you think. I am not an expert in these subjects and I am not the person making the materials — so please do not worry about hurting my feelings! Please note that we will provide materials at the end if you want information about specific topics that come up in the discussion. We will tape record this session to allow us to really pay attention to what you are saying and still have good notes. Nobody will listen to this tape except our staff and we will destroy it as soon as we have made a transcript and notes. Nobody's name will be used in either the tape recording or the transcript.

Are there any questions before we begin?

##### Icebreaker/introductions

Please tell your first name (only!) and one thing about yourself that you think people might find is surprising.

##### ***Pre-Event Knowledge, Attitudes and Responses.***

###### *Questions:*

- When you hear the term biological weapons, what comes to mind?
- How confident are you about your scientific understanding of these issues?
  - PROBES: Communicable /non-communicable diseases, transmission routes, public health responses, etc.)
- What type of information about biological attacks do you think the public needs to know before an event occurs?

##### ***Types of Information Needed***

###### *Questions:*

- Imagine that you just learned that Los Angeles had been hit with a biological attack. Tell me how you would feel about this?
- As a public health or emergency responder, what would you need to know?
- In your professional capacity, wWhat do you think the public would want to know about the attack?
- What are some differences in the types of information that specific populations would need to know (e.g. different ethnic groups)?
- What kinds of information do you think you will need to know to respond to questions from the public?

### ***Terrorism Information Seeking Behavior***

#### *Questions:*

- Where would you go to find information you would need to provide to the public?
  - Why?
- In your opinion, where does the public seek information in the event of a biological attack?

### ***Terrorism Information Dissemination***

#### *Questions:*

- In the event of a biological attack, who do you think should be responsible for disseminating information?  
(PROBE: different agency roles )
- In the event of a «biological» attack, in your professional capacity, what would you do to make important information available to the public in the event of an attack?
  - PROBES: [If information dissemination is relevant to participants]:
  - What type of plan do you have for making information available in the event of a biological attack?
  - How could messages we produce help you to supplement your plan?
  - How else can we help you be prepared for questions and information needs from the public in the event of an attack?

## **MATERIALS PRETESTING STAGE**

#### *Introduction:*

For the next few minutes we will ask you to respond to some prototype materials that we have developed to provide information for the general public. Please give us your candid opinion about how useful these materials will be for you.

Do you have any questions?

#### ***Comprehension***

Please look at the FAQ with recommendations for what to do in case of an attack.

#### *Questions:*

- What do you think is the main point of this FAQ?
- After reading this message what questions do you have about botulism?
- What parts of the message were unclear or difficult to understand?
  - PROBE: Were there any parts of the message you had to read twice, or that didn't make sense to you the first time you read them?
- Based on this message, what action would you take in the event of a biological attack?
- What other information would you want the public to know that is not included in the FAQ?

### ***Emotional response***

#### ***Questions:***

- How does this FAQ make you feel?
  - PROBES: What about this message makes you emotional response to previous question?
  - How could we change this message to make it less (or more) emotional response provoking?
- In your professional capacity, how do you think this message would make the general public feel?
  - What aspects of this message would increase the public's level of confidence and security?
  - What aspects of this message would increase the general public's fear/anxiety level?
  - What aspects of the layout or graphics in this message would provoke fear from the public?
- How would you expect to disseminate this type of message?
  - Press conference on TV, Internet, newspaper, town hall meeting?

### ***Believability***

#### ***Questions:***

- How believable is the information in this «fact sheet»?
  - PROBE: Why? Or what makes you say that?
- What, if anything, would make this information more believable?
- In the event of a biological attack, how would the information in this message be useful to you or others in the emergency response team?
- In your opinion, does this message give realistic advice for handling a «biological/chemical/radiological» attack that would be useful for you to use to inform the public?
- Do you think the general public will find it believable?

### ***Self-Efficacy, Response Efficacy and Behavioral Intent***

#### ***Questions:***

- How confident are you that the actions recommended in the «fact sheet» will keep the public safe?
  - PROBE (if needed): Why or why not?
- How confident are you that the public can carry out these recommendations?
  - PROBE (if needed): Why or why not?
- In the event of a biological attack, how likely would you be to use this type of message to help inform the public?
- How could you incorporate this message into your current emergency response plan?

### ***Recommendations for Improvement***

#### ***Questions:***

- Do you have any other recommendations to make this FAQ better or more useful for the public?

## Appendix D: Individual Focus Group Reports

### UCLA Focus Group #5: Topline Report

Agent: *Botulism*  
Population: *Urban Hispanic*

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#### Demographics

Of the nine participants in this group, all completed demographic forms. However, one person did not answer many of the questions on the form. This demographic summary is based on these nine participants. In general, this group can be characterized as:

- Latino/Hispanic
- primarily Spanish-speaking
- almost all female
- mostly married and most with children under the age of 18
- representing a large range of educational levels, from less than high school to having a graduate degree
- mostly not currently employed
- low to medium income

*Gender, age, marital status and children:* The group was approximately 11% male and 89% female. Participants ranged in age from 22 to 48 years old, with the mean age of the group being 38 years (n=7, 2 did not answer the question). Two-thirds of the focus group participants reported being married or living with a partner. The remaining third was single. Eight participants, 89% of the group, said that they have children. Each of these eight reported having one or more children under the age of 18.

*Ethnicity and language:* All participants were Latino/Hispanic and all but one said that they speak mostly Spanish at home.

*Education, occupation and income:* Education level for individuals in the group ranged from completing less than high school to having completed a graduate degree. One person did not answer this question and the remaining eight were distributed fairly evenly across all education levels (see Table 1). Only three of nine focus group participants reported currently being employed. Of the six respondents giving an occupation, four listed “housewife.” Other occupations given included teacher and construction. None of the participants that reported their occupation were health care workers. The median income category for the group was less than \$10,000 per year with no participants reporting a family income of \$50,000 or more (see Table 2).

<b>TABLE 1: Highest level school completed (n=9)</b>		
	<b><u>No.</u></b>	<b><u>Percent</u></b>
Less than high school	2	22%
Some high school	2	22%
High school diploma or GED	1	11%
Some college	-	-
College degree	1	11%
Graduate degree	2	22%
Missing	<u>1</u>	11%
Total	9	
<i>Agent: Botulism</i>		
<i>Target group: Hispanic urban</i>		

<b>TABLE 2: Family income in the year 2002 (n=9)</b>		
	<b><u>No.</u></b>	<b><u>Percent</u></b>
Less than \$10,000	4	44%
\$10,000 - \$19,999	1	11%
\$20,000 - \$29,999	1	11%
\$30,000 - \$39,999	-	-
\$40,000 - \$49,999	2	22%
Missing	<u>1</u>	11%
Total	9	
<i>Agent: Botulism</i>		
<i>Target group: Hispanic urban</i>		

### Overview

This focus group was conducted in Spanish at an urban school for English as a Second Language. Participants were well informed about current events, but acknowledged that they were not aware of where to go for more information regarding possible terrorist attacks. They expressed a great deal of distrust toward politicians, government officials, and President Bush.

### Pre-Event Knowledge

Focus group participants all agreed that they had heard of the color alert system. They reached consensus that red denotes the “highest risk”

- “Yellow is supposed to be alert, more or less, to what is going on. Orange implies a little more risk of a possible attack, right?”
- “According to the color alert, what we do is: if [it] is yellow, be aware. If I heard that it is higher, then I wear a mask, I don’t go out, not even to work.”

Suggested ways to prepare for an emergency included the collection of food, water, and radios. One of the respondents mentioned that she already had a stockpile in her home.

- “Stay alert and listen to the news; be prepared with emergency tools, food. . .”

- “A medical cabinet and first aid. . . [be] alert to everything.”
- “Have a portable radio.”
- “What I do is buy. . .cases of water. . . and canned food, and keep them in case of an emergency. I do not touch them.”

Participants characterized a radiological threat as a “chemical that destroys everything.”

- “A chemical attack is when the air is polluted, right? You get poisoned with you breathe. You need. . gas masks. . .”
- “A nuclear attack is when a bomb explodes. . .and spreads all over the place.”
- “A biological attack is something we can get in the mail, in a letter that contains some kind of powder.”

### Emotional Response

When faced with the scenario, participants used the following words to describe their emotions: “fear,” “nervousness,” “stress,” “anguish,” and “concern.”

- “[I feel] like dying.” (Part 1)
- “I feel sorry for those people.” (Part 2)
- “Well, if there is more botulism in L.A. than anywhere else, there is more fear.” (Part 3)

### Knowledge

Participants expressed minimal knowledge. They did agree, however, that they want to know more, but don’t know where to find the information.

- “[Regarding chemical attacks] I only know about putting scotch tape around doors and windows, but after a while it penetrates the house, anyway. That’s what the TV says.”
- “This is the first time I’ve heard that word [botulism].”
- “‘Biological’ means that there is more risks to the community of catching it or dying. . .this contaminates the air, water and food.”

### Actions

In response to Part 1 of the botulism scenario, participants anticipated purchasing water and canned food. Most agreed that they would stay in their homes. Later in the scenario, participants mentioned prayer and leaving the area.

- “I [would] go straight to the market and buy 50 gallons of water.” (Part 1)
- “Follow the instructions. If the TV news is saying ‘stay home,’ do that. Obey the instructions that they are providing us. They are supposed to be much more prepared than us.” (Part 1)
- “It is safer to remain at home.” (Part 2)
- “[I would go] to the church, to pray.” (Part 2)
- “I would go to Mexico for the safety of my children.” (Part 2)

### Information Seeking

When faced with Part 1 of the scenario, participants wanted to know “where to hide” and “where to go.” There was also a significant amount of concern regarding the safety of their children and the ability of schools to take care of them. After Part 2, they had many questions regarding botulism as a specific agent: particularly transmission and prevention.

- “We would want to know the people who are involved.” (Part 1)
- “One would like to know also if there is any underground shelter for the people.” (Part 1)
- “What is going to happen to our children? How could we get back together? Where would we meet?” (Part 1)
- “I would like to know what kind of disease these people have.” (Part 2)
- “What does botulism mean?” (Part 2)

Participants agreed that they would watch TV and listen to the radio. Most mentioned that they prefer English-language networks over Spanish-language networks, because the Spanish have less emphasis on the news. However, focus group members also pointed out that language barriers are a serious issue, and that television coverage is not always entirely truthful.

- “[Choosing a TV network] depends on our first language, because there is no reason to listen to the news in English if we do not understand. . .”
- “[I would watch Spanish and English networks because] if they are saying it everywhere, it is for a reason. . .do not depend only on one particular network.”
- “Sometimes [the TV] is just propaganda.”
- “Sometimes they sensationalize too much, or make things bigger than they really are.”
- “How can we go to a place [to find information] if we don’t know about it?”

Fire stations, the police, churches, and the Red Cross were all cited as potential sources of information..

### Release of Information

Perceptions asserted that the fact sheet was easy to read, and that everything was well explained. Participants felt “happy” about the information that they had learned. The information was viewed as entirely credible, and the group believed that the recommended actions would be effective. However, they expressed doubt at their ability to follow the recommended actions.

- “If the government is going to say something. . .it is because they know about it, they are not going to announce it for nothing.”
- “We can [follow the directions}. . .[but] the thing is, we are careless.”

The group learned:

- “How to cook at the right temperature.”
- “How to prevent the symptoms.”
- “How the nervous system is affected.”

Unanswered questions include:

- “I would like to know where botulism comes from.”
- “What can we do about it?”

#### Recommendations for Improvement

Participants recommended adding pictures to the materials, as they would make the information “easier to understand.” They also hypothesized that the language difficulty may prevent the materials from being accessible to all populations.

- “Words and photos, explaining each part carefully.”
- “Maybe [people] are going to get confused with the vocabulary.”

#### Response to Government

Participants generally agreed on a low level of trust of government figures.

- “[Politicians] say and offer things to get votes.”
- “[Politicians] offer and offer, and once they get the power, they forget all their promises.”
- “They protect 100% their family [first] – like Bush.”

#### Perceptions of Emergency Response Systems

Focus group participants expressed a high level of trust in police and fire departments.

- “[Physicians] are prepared people and know more.”
- “The police and fire department are the ones who are always informed of everything.”

## UCLA Focus Group #7: Topline Report

Agent: *Botulism*

Population: ESL

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### Demographics

Of the 14 participants in this group, all 14 completed demographic forms. This demographic summary is based on these 14 participants. In general, this group can be characterized as:

- of mixed ethnicity, mostly Latino and Asian/Pacific Islander
- “English as a second language” speakers with six different primary languages
- mostly married, half with children under 18 years of age
- not currently employed
- diverse in education and family income levels

*Gender, age, marital status and children:* The group was approximately 43% male and 57% female. Participants ranged in age from 27 to 61 years old, with the mean age of the group being 40 years (n=12). All but one participant, 93%, reported being married or living with a partner. One participant reported being divorced or separated. Nine participants, 64%, said that they have children, seven of whom have children under the age of 18 years.

*Ethnicity and language:* Half of the group was Latino/Hispanic. Another 36% were Asian/Pacific Islanders. One person reported being Caucasian and one “Asian/Latino.” One person in the group reported speaking mostly English in his/her home; six reported speaking mostly Spanish; and the other seven reported speaking Chinese, Korean, Japanese, Portuguese, or Persian at home.

*Education, occupation and income:* Education level for individuals in the group ranged from not completing high school to having completed a graduate degree (see Table 1). Only one of the focus group participants reported currently being employed. Seven respondents reported “at home” occupations such as housewife, retired, or unemployed. Two reported being students. Other occupations given included: computer engineer, Xerox repair person, waiter, and refrigeration technician. None of the participants reported being a health care worker. The median family income category for the group was \$30,000-\$39,999 per year (see Table 2).

<b>TABLE 1: Highest level school completed (n=14)</b>		
	<u><b>No.</b></u>	<u><b>Percent</b></u>
Less than high school	1	7%
Some high school	3	21%
High school diploma or GED	1	7%
Some college	2	14%
College degree	2	14%
Graduate degree	5	36%
Total	14	
<i>Agent:</i> Botulism <i>Target group:</i> English as a Second Language		

<b>TABLE 2: Family income in the year 2002 (n=14)</b>		
	<u><b>No.</b></u>	<u><b>Percent</b></u>
Less than \$10,000	-	-
\$10,000 - \$19,999	4	29%
\$20,000 - \$29,999	1	7%
\$30,000 - \$39,999	3	21%
\$40,000 - \$49,999	3	21%
\$50,000 - \$59,999	1	7%
\$60,000 - \$69,999	1	7%
\$70,000 - \$79,999	-	-
\$80,000 - \$89,999	-	-
\$90,000 - \$99,000	-	-
\$100,000 or more	1	7%
Total	14	
<i>Agent:</i> Botulism <i>Target group:</i> English as a Second Language		

### Overview

One major theme that emerged from this focus group was concern about hard-to-reach populations and their access to information.

### Pre-Event Knowledge

The group was aware of the color alert system, and agreed that colors indicated varying levels of danger. Methods of self-protection included information seeking, gas masks and duct tape. Masks and tape were associated with a chemical attack. Radiological threats elicited various doomsday responses, and questions regarding a biological threat were met with a set of anthrax-related answers and SARS.

- “When they protocolled the orange alert, it is that the CHP or the police department and the fire department. . they’re . . doubling their shifts.”
- “Pull out your gas mask.”
- “Duct tape. Somebody told us. . if we got a threat chemically, then it’s already late to prepare.”

### Emotional Response

When faced with Part 1 of the botulism scenario, participants described feelings of fear. Later, through Parts 2 and 3 of the scenario, focus group participants felt nervous and communicated this emotion directly and indirectly (by mentioning information-seeking and possible actions).

- “I want to run. I want to run.”
- “[I feel] chills.”
- “When I hear this information, I feel nervous.”

### Knowledge

Participants exhibited little knowledge and beliefs about non-specific and specific agent characteristics.

### Actions

In response to Part 1 of the scenario, participant strategies included information seeking, determining the locations of loved ones, attempting general preventative actions, and relocating. Throughout Parts 2 and 3, participants considered limiting their diets, calling 911 or the fire department, and increased information seeking (please see below).

- “Relocate everyone that you want to be safe.”
- “I will be very careful. .I would eat oranges, not water.”
- “Go to the hospital.”
- “If they have a kind of mask or something to protect. . I would buy that. . .”

### Information Seeking

After the initial part of the scenario was presented, participants felt strongly that they wanted to know how to protect themselves and their families. They listed various information sources, and emphasized television and internet. Also, various participants commented on the questionable reliability of news sources vis a vis governmental sources of information. As the details of the scenario unfolded, participants indicated the desire for details regarding the affected patients. Also, they articulated concerns regarding the differences between botulism and Botox, and methods of treatment.

- “So how do I need to protect myself.”
- “What we can do. Where we can go. What to do, you know.”
- “It’s important to track different information. Not only one. . .”
- “Sometimes on the internet. . .there [are] many rumor[s].”
- “I think if that information is from the government, that information is verified and strongly true. . . If the information is from the news, I think you can pursue that it’s not necessarily true.”
- “I would try to search where these people were at the moment. . .when they got infected.”

### Release of Information

After reading the pretest materials, self-proclaimed comprehension rates averaged about 50-70%. There was a general consensus that the “scientific terminology” is what made the document hard

to understand. Participants felt “safer” after reading the information, and noted that it was “credible.” They felt confident that they could follow the instructions. There was, however, a significant number of unanswered questions.

- “Has it been used as a war chemical?”
- “It’s not clear for me why it’s so dangerous. . .”
- “I know I understand some parts, but I don’t understand 100% of the parts.”
- “[The information] sounds written by some doctor or scientist.”
- “It is good because I feel okay and it has some comments about protection.”

#### Recommendations for Improvement

Suggestions include adding current research, organizing it better, making the language less technical, adding a list of hospitals and doctors, and a 1-800 number.

- “It would be nice if you had. . .a glossary of the scientific stuff.”
- “The diagnostic part is very sketchy.”
- “More of the symptoms. . . if they could expand more on how it looks like. . .”
- “Maybe an address. . .I don’t know where is it, and I don’t know who is it.”
- “An updated list of new investigations.”
- “In my case if I [get] a big information, I don’t read it. Just when I get a simple important information. So. . .I think this one is too long.”

#### Response to Government

Participant sentiments regarding government were mixed. While there was consensus that the government holds primary responsibility to distribute information and take protective action, some participants expressed doubts about transparency.

- “Some[times] the government hide[s] some things. . .I know that government information always hides something.”
- “The government should tell people how to prepare [for] this.”
- “I’m sure that there are gonna be phone numbers that you can call. . .to protect yourself. I assume that’s what the government is gonna do.”
- “Government is responsible for giving report[s] to people and providing food.”

#### Perceptions of Emergency Response Systems

Participants indicated a high level of trust in emergency response systems. They replied positively when asked directly, and also mentioned emergency responders as potential sources of information.

- “Basically, I trust the emergency system.”

## UCLA FOCUS GROUP #6: TOPLINE REPORT

Agent: *Botulism*  
Population: *Asian Urban*

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### Demographic Information

Of the 21 participants in this group, 16 completed demographic forms. This demographic summary is based on these 16 participants. In general, this group can be characterized as:

- Asian/Pacific Islander, with over half reporting Tagalog or Filipino as the primary language spoken in the home
- approximately half male and half female
- having a large majority of participants with children and almost half with children under the age of 18 years
- older (average age 54 years)
- highly educated – all but one participant reported completing some college and 64% reported college or graduate degrees

*Gender, age, marital status and children:* The group was about half male and half female, 44% and 56% respectively. Participants ranged in age from 35 to 80 years old, with the mean age of the group being 54 years. Half of the focus group participants reported being married or living with a partner. Five participants were widowed, two were separated or divorced, and one was single. The majority of the participants, 88% of the group, said that they have children. Half of these 14 participants, almost half of the whole group, have children under the age of 18 years.

*Ethnicity and language:* All of the participants identified their ethnicity as Asian/Pacific Islander. Approximately 44%, seven participants, reported English as the primary language spoken in their home. The other 56% of the group reported speaking Tagalog or Filipino at home.

*Education, occupation and income:* Education level for individuals in the group ranged from having a high school diploma or GED to having completed a graduate degree (see Table 1). Over half, 64%, reported having completed a college or graduate degree. Only four participants, 25%, reported currently being employed. Three of the participants reported being retired. Other occupations given included: security officer, accountant, government employee, engineer, teacher, seamstress, and sales clerk. Of the 16 participant, one reported being a health care worker. The median income category for the group was \$10,000-\$9,999 per year. No one in the group reported more than \$59,999 in family income for the year 2002 (see Table 2). However, this information is based on only five responses. Eleven responses were coded as “missing or refused.”

<b>TABLE 1: Highest level school completed (n=16)</b>		
	<u>No.</u>	<u>Percent</u>
Less than high school	-	-
Some high school	-	-
High school diploma or GED	1	6%
Some college	5	31%
College degree	9	56%
Graduate degree	<u>1</u>	6%
Total	16	
<i>Agent: Botulism</i>		
<i>Target group: Asian urban</i>		

<b>TABLE 2: Family income in the year 2002 (n=16)</b>		
	<u>No.</u>	<u>Percent</u>
Less than \$10,000	2	13%
\$10,000 - \$19,999	1	6%
\$20,000 - \$29,999	-	-
\$30,000 - \$39,999	1	6%
\$40,000 - \$49,999	-	-
\$50,000 - \$59,999	1	6%
Missing or refused	<u>11</u>	79%
Total	16	
<i>Agent: Botulism</i>		
<i>Target group: Asian urban</i>		

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## Overview

This group was largely Filipino. Participants were quiet and attentive, but tended to talk over each other when excited or in agreement. They seemed to take the process very seriously. Notable themes that emerged from this group include a significant reliance on prayer and faith, and a high level of confidence in government.

## Pre-Event Knowledge

Participants had a general idea of what the Color Alert System is, but were unfamiliar with the details. While none had actively prepared for a terrorist attack, participants listed gas masks, protective clothing, food and water as important emergency supplies. Knowledge of chemical, radiological and biological attacks was limited, and concerns regarding transmission and dispersal were voiced.

- “High alert or red alert is somewhat like double alert. . .[it] depends on the color.”
- “There are plenty [chemical threats], anthrax or something like that.”
- “If they dispose of something in the air, everybody can get it.”

## Emotional Response

When faced with the initial scenario, participants felt fear and helplessness. Through Parts 2 and 3 of the scenario, they also felt sadness and panic. These emotions were in response to the nature of the situation, rather than the specific agent.

- “A biological threat is too scary. . .it’s scaring people.”
- “[I feel] sad.”
- “People are starting to panic now.”

### Knowledge

Participants vocalized minimal beliefs and knowledge about the agent, symptoms and response. Relevant statements were limited to speculation.

- “I don’t think this particular botulism. . .can affect the water system.”

### Actions

In response to Part 1 of the scenario, participants expressed doubt that any actions would help. As the scenario progressed, prayer, departure from the area, and information-seeking were posited as appropriate actions to take. Various participants also mentioned that they would boil their water and food.

- “I don’t think we can prepare anything. . .I don’t think anybody can prepare anything anymore. . .we need to prepare our spirit to go.”
- “You need to pray, seek the Lord. That’s the only way to go.”
- “I’m going to maybe Mexico. . .The best thing to do is go out.”
- “I think the best thing for people to do is educate themselves.”

### **Information Seeking**

In response to the scenario, participants had questions regarding the specific patients and how they became ill. They hoped to be given a set of recommendations for action.

- “[I would want to know] what we are going to do.”
- “What did [the patients] eat? Or where did they go?”
- “Is there a vaccine for it?”
- “[I would want to know] what the government is doing, their plans.”

Television, internet, and the library were cited as sources of information, with television being the most preferred.

### Release of Information

When asked what they learned from the fact sheet, participants mentioned “a cure,” “prevention,” and general awareness. Unanswered questions and additional information needed centered around treatment and likelihood of event occurrence.

- “If I got it, how long do I need treatment?”
- “[I would like information on] the sanitary things and how it’s processed [canned foods].”

- “I want to know when will it happen or where?”
- “Is botulism one of the top weapons to be used by terrorists?”

There were various questions regarding transmission, and insects, air, gas and oil were all cited as potential methods. This misinformation may indicate a low level of comprehension of the materials. Meanwhile, participants’ confidence in their ability to follow instructions was high, as was confidence in the efficaciousness of the recommended instructions.

#### Recommendations for Improvement

Recommendations for improvement of the print materials were minimal.

#### Response to Government

Many of the focus group participants agreed that the government is a trusted source of information that will act in the interest of the people.

- “If the President says do, declares it, confirms it. . .it’s the President. But, if it’s only a newscaster, I don’t believe.”
- “We need information from authorities, from the President.”
- “The government will do everything for our good. . . That’s why you must believe in the government.”
- “We don’t really have a choice, but to rely on [politicians] during this emergency situation and trust in God that they will do their job and protect the people. . .”

#### Perceptions of Emergency Response Systems

In general, participants expressed confidence in the ability of emergency responders to keep the public safe. At the same time, some were concerned that responders may put the public’s safety below that of themselves and their families.

- “You have to consider that they have to protect them[selves] also. . .maybe they don’t have time for us.”
- “Americans are nationalists. . . That’s their profession, so they risk their life.”
- “They have to be well-prepared. . .to be able to help other people out.”

**PRE-EVENT MESSAGE DEVELOPMENT PROJECT**  
**Summary report of qualitative analysis of focus group**

**Population: Urban African American**  
**Agent: Botulism**

Region: Midwest  
Focus group date: July 16, 2003  
Intercoder reliability: 62.2%

Prepared by the Health Communication Research Laboratory  
Saint Louis University School of Public Health  
Report date: August 22, 2003

## GROUP CHARACTERISTICS

What are the characteristics of the group?

Demographics of the group are presented in Table 1.

**Table 1. Group demographics**

Characteristic	Category	N (%)	Mean/SD
Age	Missing	0	47.50/13.48
Sex	Male	4 (40.0)	
	Female	6 (60.0)	
	Missing	0	
Education	Less than high school	3 (30.0)	
	Some high school	5 (50.0)	
	High school diploma or GED	1 (10.0)	
	Some college	1 (10.0)	
	College degree	0	
	Graduate degree	0	
	Missing	0	
Ethnicity/race	African American/Black	10 (100.0)	
	American Indian/Alaska Native	0	
	Caucasian/White	0	
	Other	0	
	Other (specified)	--	
	Missing	0	
Language in home	English	10 (100.0)	
	Other	0	
	Other (specified)	--	
	Missing	0	
Marital status	Single	3 (30.0)	
	Married or living with partner	2 (20.0)	
	Divorced or separated	3 (30.0)	
	Widowed	1 (10.0)	
	Missing	1 (10.0)	
Children	Yes	7 (70.0)	
	No	1 (10.0)	
	Missing	2 (20.0)	
Employment	Yes	0	
	No	9 (90.0)	
	Missing	1 (10.0)	
Family income	Less than \$10,000	4 (40.0)	*
	\$10,000-\$19,999	2 (20.0)	
	\$20,000-\$29,999	1 (10.0)	
	\$30,000-\$39,999	0	
	\$40,000-\$49,999	0	
	\$50,000-\$59,999	0	
	\$60,000-\$69,999	0	
	\$70,000-\$79,999	0	
	\$80,000-\$89,999	0	
	\$90,000-\$99,999	0	
	\$100,000 or more	0	
	Missing	3 (30.0)	

\* = median

The 10 participants in Focus Group 3 (urban, African American; botulism) ranged from 27 to 69 years of age, with an average age of 47.50 (SD = 13.48). Six females participated (60.0%) and there were 4 males (40.0%). Most (5; 50.0%) had some high school, 3 (30.0%) had less than high school, 1 (10.0%) had a high school diploma or GED, and 1 (10.0%) had some college. All (10; 100%) were African American. All (10; 100%) reported that their main language spoken at home was English. Three (30.0%) were single, 2 (20.0%) were married or living with a partner, 3 (30.0%) were divorced or separated, 1 (10.0%) was widowed, and 1 (10.0%) did not report a marital status. Most (7, 70.0%) had children, while 1 (10.0%) did not, and 2 (20.0%) did not respond to the question. Most (9; 90.0%) were not employed and 1 (10.0%) did not respond to the question. The median family income was in the less than \$10,000 range (3; 30.0% did not respond). The focus group was conducted at a community organization.

## RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

(Report top concerns; include notable findings reported as prominent by project staff.)

- In response to the hypothetical scenarios, participants were able to clearly state what their information needs would be and where they would turn for more information.
- Responding to the fact sheets was difficult for participants because of literacy difficulties.
- For this population of lower-SES, urban African Americans, the communication medium and presentation is important. Information needs to be clear in how and when to take action, avoid doubtful or obscure statements, and make purposeful action-oriented statements to avoid invoking unneeded fear and misunderstanding.

### **Results of qualitative analysis, by conceptual domain:**

#### Pre-event knowledge

*What is participants' current awareness of the CAS, precautions, and different threats?*

(Summarize general responses to knowledge questions about CAS, self-protection actions; different threats; include typical supportive quotes.)

- All participants displayed general knowledge of the CAS but were unsure of details such as the number and meaning of the different alert colors.
- Participants understood the purpose of the CAS as a warning signal.
- Participants believe that staying informed, faith in God, and activities related to sheltering in place will protect them from an attack.
- Participants lacked a clear understanding of the differences between chemical, radiological and biological threats.

P(group), pg.2: Yes.

P7, pg.2: I think yellow is more of a test to be aware. I forget...

P6, pg.2: Red, orange, and yellow.

P?, pg.2: That's a warning sign.

P2, pg.2: To get prepared.

P2, pg.2: Three

P7, pg.2: Four

P5, pg.3: We know right now but we probably haven't gotten ready, but we need that. Go to the basement and we put some food down in there right now. I mean for tornados or whatever.

P7, pg.2: Be aware of your surroundings. Listen to what is going on about terrorism and how close it is to you.

P8, pg.3: Well, me...myself I really don't fear because I know my spirit's going somewhere....or if something happens to me, so I don't walk in fear.

P6, pg.3: I walk with the Lord.

P?, pg.4: Very dangerous.

P7, pg.3: It's like anthrax. Like gas.

P5, pg.3: Or any chemical. They may have a chemical that eat your flesh out in maybe some sort of liquid form.

P8, pg.4: Something you can inhale through your nostrils and gives you....makes your skin break out and gives you sores like that before it kills you.

P5, pg.4: That's like they send something near you and it explodes. Then it keeps drifting through the air.

P7, pg.4: Contamination. Blood contamination. Food contamination. Stuff like that.

P?, pg.4: It could be a chemical but in different form. Something like you could take in a syringe. A terrorist could do that

#### Response to hypothetical attack

*How do participants respond emotionally to a suspected or actual emergency?*

(Summarize participants' emotional response.)

- Participants noted that they would be scared, worried, and nervous in the event of a threatened attack.
- One participant noted that despite the news being a biological threat, they were glad to hear the details of the situation.

P8, pg.6: Skeptical about going outside.

P?, pg.6: Very scared.

P2, pg.6: Make you worried.

P5, pg.6: Nervous.

P8, pg.8: You're making me scared now. I had tried to put that in the back of my head. Now you got it all fresh back in my head.

P8, pg.10: I feel kind of good though that they are giving information about the people's situation.

*What do participants want to know in the event of an emergency?*  
(Summarize participants' desired knowledge.)

- Geographic location of the threat.
- The source of the outbreak.
- Who started the outbreak.
- Where they should go.
- What action to take to keep water safe.
- How to get more information.

P7, pg.6: Where the threat is?

P7, pg.8: I would want them to research and see what that person ate, that person drank. And then try to break it down.

P5, pg.11: How did it get there? That's what I would want to know.

P2, pg.9: I would want to find out who the people are...the people that are doing the stuff.

P5, pg.9: Where the fallout shelters are.

P4, pg.9: Well boiled water might not...

P7, pg.11: I would be afraid, but I would want more information and possibly know what part of the city...you know there are different areas. Isolate that area and let us know that that's where it is.

P7, pg.11: I'd try to take more precautions. Whatever information or precautions you give me, I'm gonna take.

*Where do participants seek information in the event of an emergency and why?*  
(Summarize participants' information seeking strategies and justifications.)

- Participants indicated that they would seek information from TV and radio news coverage; a battery-operated radio was mentioned to be necessary if the electric is cut off.
- One participant noted that they don't have a computer, thus eliminating the Internet as a news source option.
- Another participant said to call the Mayor because he always knows what is going on.
- A local alarm that sounds off at a very high volume.
- A loud speaker that covers all of St. Louis to warn of a real attack.
- Calling 911 in order to keep up with information.
- Calling the CDC to ask questions; credibility of the source was mentioned to be important.

P5, pg.7: TV and radio.

P?, pg.7: News coverage.

P8, pg.10: But we won't have TV to watch what's going on. That's what I'm saying about the batteries.

P5, pg.10: We don't have a computer.

P2, pg.10: If you want to get the whole bottom line you call the Mayor. He always knows what's going on.

P5, pg.7: At certain times an alarm goes off. Do you hear it? Even with the TV on we hear that alarm.

P?, pg.7: But they'll talk on a loud speaker. That speaker covers all over St. Louis. "This is a real attack. This is a real warning," There are two ways to keep us with the information. That's 911 and calling the news.

P7, pg. 12: Like I said we don't know. We need to be informed. We could call the CDC and ask them questions about the disease itself or whatever they are putting in the air. You have to have sources you know. You have to pay attention to your sources that you could go to to get this information. Right now we are just in the dark. We don't know.

### **What are participants' perceptions about government and preparedness?**

(Summarize participants' perceptions about government.)

- Perception that government is responsible for terrorism in U.S. due to foreign policy approach.
- Multiple participants believe that the government makes up a lot of stories.
- Participants expressed mixed feelings concerning confidence in the government to protect this country; the government makes promises that are not followed through and thus, are unreliable.
- Multiple participants expressed anxiety over the difficulty in identifying terrorists.
- Resentment of government interference.

P?, pg.6: That's what's wrong with the terrorists. United States go over there and take their little stuff. And they come over here and try to take some, then there's a war. You can't do what we do.

P8, pg.12: I expect President Bush to keep us safe because he's the one that starts this crap.

P8, pg.12: I feel like Bush my daddy, he starts this crap. I feel like he should be sure we stay safe.

P2, pg.6: He is trying to be the law in every country. That's not fair.

P2, pg.6: They make up a lot of stories. It's not about this, but it's all about this. It's always about the President.

P7, pg.13: It's so hard to weed out the terrorists once they get here because they come in like ordinary citizens. We don't know who they are. We don't know where they're coming from.

P7, pg.12: I'm not very confident. All we know is what we see. Like I said they have these

government people and different people and they say everything. I haven't experienced it first hand. It makes it a little skeptical.

P8, pg.5: Can I say just one thing? That's the reason why I was wondering....I was kind of upset because they were enforcing the law about the fireworks. I realize the reasons why they were enforcing it so bad because it could be a check from a terrorism. We would not even know it because we were too busy running around popping fireworks ourselves. I was upset at first but now that I realize they were trying to look out for our best interests....

P2, pg.5: When they wanted us to stay safe instead of fooling with them fireworks. Too much going on over the water. They were trying to keep it quiet so they could get that situated over there. It's never over. When we die, that's when everything is over.

*What are participants' perceptions about the role of the media?*

(Summarize participants' perceptions about media.)

- Television and radio are good sources of information.
- One participant noted that broadcast media does not establish the confidence of the public in the response ability of elected government officials; he/she said that many claims are made on television and it is hard to believe everything.

P5, pg.7: TV and radio.

P7, pg.13: Well they say they would, and they show us all these different things. I mean I have seen on TV where they had these hazardous things, and they're testing it. Like I said, all we can do is rely on what we see. I can't be that confident because they can say anything. You know what I mean? It doesn't really give me that much confidence.

*What are other participants' perceptions of interest?*

(Summarize other participant comments of note?)

- Clearly, participants have confidence in emergency responders, medical personnel, EMT's and firefighters; they trust and praise the first responders.

P?, pg.14: Oh they're good.

P?, pg.14: We have the best.

P7, pg.14: I have confidence in them as long as we have enough of them.

P2, pg.14: I put my trust in them too. I mean I don't have any other sources, I gotta trust somebody. So I trust them to keep me safe in an emergency. I mean if I don't trust them, who am I going to trust?

### Materials pre-test response

*How well do preliminary message materials address information needs?*

(Summarize participants' response to materials in terms of perceived usefulness, presentation of information, and informativeness.)

- Participants found the message materials informative because they discussed details of prevention and transmission.
- Participants retained facts from the materials; they were able to give two specific examples of prevention methods to use in the event of an outbreak.

P2, pg.16: They want you to purify your water and fry your food at a certain temperature.

P7, pg.16: I also read where the different places and different forms that take place.

P2, pg.17: Yeah. It gives me information that you would want to know in an emergency.

P8, pg.17: And then I know it's not contagious.

P?, pg.17: Yes. It says it right here.

P8, pg.18: They just really are trying to tell you to really cook your food well-done.

P8, pg.18: I would boil my water.

P2, pg.19: I would cook my food to 185 degrees.

#### *What are unmet information needs?*

(Summarize participants' unanswered questions.)

- There were a few unanswered questions.
- Desired particulars about food and water purification: role of low salt, determining if food is contaminated, why and especially, when it is necessary for purification methods.
- Confusion arose about transmission of botulism; the participants debated among themselves about how one can contract it.

P6, pg.15: I can't see too good. What's with low salt?

P?, p.15: I have a question on here. It says that you can't smell or taste the bacteria that is in the food if it is contaminated but don't eat it. I don't understand that. You see what I'm talking about, the smelling and tasting the botulism.

P9, pg.17: The dirt. The food and meat.

P8, pg.17: No you can't.

P?, pg.16: And they want to, they say boil liquids for five minutes before consuming them. So you got to do all this stuff now? What about the stuff like sodas and stuff like that? You can't boil that.

P8, pg.17: What it said on the first page about the boiling of the food.

#### *How do participants respond emotionally to preliminary message materials?*

(Summarize participants' emotional response.)

- Participants generally felt safer after looking at the information sheets because they felt better prepared about what to do in the event of an emergency.
- One participant noted that he/she felt the same.

P10, pg.20: The same.

P2, pg. 20: Yeah, safer because I know what to do in an emergency.

P8, pg. 20: You know what, I've been knowing about these things, but I just kind of let it fade out of my mind. But now you got it back fresh back on my mind again, and now I am going to take the necessary precautions to keep me safe.

*How credible are the preliminary message materials?*

(Summarize participants' perceptions about credibility of materials.)

- The participants agreed as a group that the information was credible and that no change could make the information more credible.

P(group), p.21: No.

P7, pg.20: I think it's very credible.

P2, pg.20: Whoever wrote it did a pretty good job. Whoever wrote it know...

*How successful are materials in fostering self-efficacy?*

(Summarize participants' perceptions about self-efficacy in response to materials.)

- Most participants confidently understood the risks of botulism, as well as the recommended actions for safety; a few participants did not understand.
- Participants showed strong willingness to follow recommended actions regarding cooking food in the event of an outbreak. Multiple people mentioned that they prefer to cook their food another way, but would follow recommendations at all times in order to avoid getting sick.
- Self-efficacy was demonstrated regarding knowledge of where to turn for information in case of a botulism outbreak.

P2, pg.21: Confident.

P2, pg.18: I would follow some of these rules.

P8, pg.17: And then I know it's not contagious.

P?, pg.21: Some of these things they are saying like it can easily spread, and what conditions. If I was to get it, things I can still do and wouldn't have to worry about infecting no one else. For instance, I would never think you would breastfeed with it, but you can.

P?, pg.16: That's fine. I like my steak medium-rare and stuff like that and egg with the yellow, but I don't eat it like that no more. They talk about the hamburger and all the crap going on around here.

P?, pg.18: You have to be cautious in these times I think. That's why I don't eat my eggs runny. I love them like that but I can't eat 'em like that anymore.

P8, pg.21: Yeah, me, myself I wouldn't even try to worry about it unless like you said I hear someone on the news or the radio that's saying that the water got contaminated or the food supply had gotten contaminated. That's the only way I would try to take any cautions to try and protect myself.

*What are participants' recommendations for improving the materials?*  
(Summarize participants' recommendations.)

- Participants requested points of clarification on food purification precautions between the event of an outbreak and everyday.
- Participants had difficulty reading some of the words; they recommended using smaller words, and defining words so that they would not need a dictionary.
- Decrease the reading level.
- The group agreed that they liked the question/answer format of the fact sheets.

P8, pg.17: What it said on the first page about the boiling of the food.

P10, pg.18: It says only if there's an outbreak.

P2, pg.18: I'm just saying it's the explanation.

P8, pg.21: There are some words that I can't read.

P8, pg.21: It's just a few words in the paragraph that I can't really pronounce. Like where it is says [??] in children less than 12 months of age that – I don't know. Then it says immunization systems are not firmly developed...I don't know what that word is.

P8, pg.21: No, I didn't say anything about that. Up on the top page, it says what causes botulism. It says botulism is caused by infections with a germ called [??].

P8, pg.22: Break down these words. Write the meaning of them.

P2, pg.22: Give the meanings so we don't need a dictionary.

P8, pg. 22: Make them much easier.

P(group), pg.22: Yeah. That's good.

*What are other participants' recommendations for preparedness?*  
(Summarize participants' other recommendations.)

- One participant mentioned that a restaurant that prepares food for a large group may fail to offer fully cooked food; he/she implied that choice of food preparation is important.

P8, pg.18: When you go out to one of those family restaurants, it's all they are going to serve you unless you have a choice. If you go in like a group thing, like at church we go to the Sheraton hotel, and everybody gets medium-rare. Nobody have a choice on well-done.

**PRE-EVENT MESSAGE DEVELOPMENT PROJECT**  
**Summary report of qualitative analysis of focus group**

**Population: Urban Caucasian**  
**Agent: Botulism**

Region: Midwest  
Focus group date: July 21, 2003  
Intercoder reliability: 75%

Prepared by the Health Communication Research Laboratory  
Saint Louis University School of Public Health  
Report date: August 26, 2003

## GROUP CHARACTERISTICS

What are the characteristics of the group?

Demographics of the group are presented in Table 1.

**Table 1. Group demographics**

Characteristic	Category	N (%)	Mean/SD
Age	Missing	0	77.33/7.16
Sex	Male	1 (10.0)	
	Female	9 (90.0)	
	Missing	0	
Education	Less than high school	0	
	Some high school	4 (40.0)	
	High school diploma or GED	3 (30.0)	
	Some college	1 (10.0)	
	College degree	2 (20.0)	
	Graduate degree	0	
	Missing	0	
Ethnicity/race	African American/Black	1 (10.0)	
	American Indian/Alaska Native	0	
	Caucasian/White	9 (90.0)	
	Other	0	
	Other (specified)	--	
	Missing	0	
Language in home	English	10 (100.0)	
	Other	0	
	Other (specified)	--	
	Missing	0	
Marital status	Single	0	
	Married or living with partner	0	
	Divorced or separated	3 (30.0)	
	Widowed	7 (70.0)	
	Missing	0	
Children	Yes	9 (90.0)	
	No	1 (10.0)	
	Missing	0	
Employment	Yes	0	
	No	9 (90.0)	
	Missing	1 (10.0)	
Family income	Less than \$10,000	3 (30.0)	*
	\$10,000-\$19,999	5 (50.0)	
	\$20,000-\$29,999	2 (20.0)	
	\$30,000-\$39,999	0	
	\$40,000-\$49,999	0	
	\$50,000-\$59,999	0	
	\$60,000-\$69,999	0	
	\$70,000-\$79,999	0	
	\$80,000-\$89,999	0	
	\$90,000-\$99,999	0	
	\$100,000 or more	0	
	Missing	0	

\* = median

The 10 participants in Focus Group 4 (urban, White; botulism) ranged from 68 to 91 years of age, with an average age of 77.33 (SD = 7.16). Nine females participated (90.0%) and there was 1 male (10.0%). Most (4; 40.0%) had some high school, 3 (30.0%) had a high school diploma or GED, 2 (20.0%) had a college degree, and 1 (10.0%) had some college. Most (9; 90.0%) were Caucasian and 1 (10.0%) was African American. All (10; 100.0%) reported that their main language spoken at home was English. Seven (70.0%) were widowed and 3 (30.0%) were divorced or separated. Most (9; 90.0%) had children, while 1 (10.0%) did not. Most (9; 90.0%) were not employed and 1 (10.0%) did not respond to the question. The median family income was in the \$10,000-19,999 range. The focus group was conducted at a community senior citizens' center.

## RESULTS OF ANALYSIS

### Executive summary of top concerns and topics of discussion

- In response to the hypothetical scenario, participants indicated that they would be very concerned about the ability of response systems to keep the public safe and how to avoid becoming sick; general distrust of the government.
- Trust for the media was evident as the group indicated that they would turn to the media and interpersonal contacts for information; concern was voiced about the phone lines being too busy during a panic situation.
- Responding to the fact sheets, participants indicated that they felt the materials answered their concerns. However, they were wary that a biological attack would occur with an agent that has a precaution as simple as boiling water. They also went on to report a variety of unanswered questions.

### **Results of qualitative analysis, by conceptual domain:**

#### Pre-event knowledge

*What is participants' current awareness of the CAS, precautions, and different threats?*

- Participants had knowledge of the color alert system; they understood the details of the alert colors.
- One participant noted that they would seek underground shelter in order to protect self from attack.
- Participants would depend on emergency response systems and the media for protection and information.
- Limited understanding of distinctions between chemical, radiological and biological threats.

P(group), pg.2: Red, orange, yellow.

P10, pg.2: Depending on the color it's how high the alert system is whether it's orange, yellow or red, I think is one of them. Isn't it? I don't remember, but I know orange is. That's a pretty hot topic there. It might be coming again.

P4, pg.2: Seek shelter, maybe underground.

P6, pg.3: If there would be a terrorist attack they would certainly be on the television giving reports and telling you what to do.

P9, pg.3: Something that is going to be in your food. Some kind of chemical that can be in your food that you wouldn't realize.

P1, pg.3: Medicines?

P6, pg.4: Nerve gas.

### Response to hypothetical attack

*How do participants respond emotionally to a suspected or actual emergency?*

- Participants indicated that they would feel scared and helpless.

P3, pg.4: Helpless.

P10, pg.7: Really scared.

P10, pg.9: No. I still feel helpless. There isn't anything we can do about it.

P?, pg.10: It's going to take a long time to find out that. You can tell that I'm not very optimistic.

P6, pg.9: I'd be more concerned than before about the food poisoning. I mean what it's in. Water?

*What do participants want to know in the event of an emergency?*

- Participants unanimously agreed that they want to know the type of biological weapon in the event of a raised homeland security advisory threat level.
- Geographic location.
- Who is behind the terrorism and are they in St. Louis?
- Methods of transmission: through food, water, or both?
- How to prevent it.
- Other reasons for sickness aside from botulism.
- Who the victims are and their association with each other (if any).
- All participants wanted to know about medication: Is there enough available and where do you stand in line to get it?
- Symptoms.

P(group), pg.5: Yes.

P9, pg.4: Where is it coming from?

P9, pg.4: Where is it centered? If it is a threat, where is it centered? Try to find a way to go to get away from it and not get near it.

P5, pg.4: Are they in St. Louis?

P?, pg.4: What are they using?

P?, pg.7: Is it food or water?

P?, pg.7: Is it in a restaurant?

P10, pg.7: Is it in the food out there that we haven't bought yet? Or is it in all food that you have in your kitchen at the time?

P9, pg.9: You would like to know where it was situated. Now, all these people that are getting sick, are they all in one area? If they are in one area, if the food is coming from these stores there, if it's coming from other places, because you don't know what to eat or where to get it. And you would be very concerned about it.

P10, pg.9: What can we do about it?

P?, pg.7: Yes.

P3, pg.14: I think education is the only way to go. We need to learn more. Know what to do. Know where to go. We don't have a clue.

*Where do participants seek information in the event of an emergency and why?*

- Radio because it is the quickest information.
- Television because it has more information and they often break in from the White House.
- Participants noted that making phone contact would be unlikely in a panic situation, therefore TV and radio may be the best source of communication.
- Health department.
- Doctors were mentioned because they may be familiar with the botulism symptoms; seems to be a source characterized by trust and credibility. However, participants agreed that doctors may not be the best source.
- Police were mentioned, but one participant noted that they are busy and may take too long.
- Fire department.
- 911.
- Hospital
- Church
- Poison control center.

P1, pg.6: Radio, television. They are going to get it first.

P10, pg.5: Television always has more information. I'd go there.

P10, pg.11: But wouldn't they put that out as the biggest source of communication – the radio or the television to let people know. Then you don't have to make any phone calls. They'd let you know that this was going on. Don't you think?

P3, pg.7: Ask the health department or doctor what it is and how you prevent it.

P10, pg.11: I might call him to see what the symptoms are so I know if I'm going to start getting it.

P10, pg.8: What good is the information going to do us anyhow? No matter how we go about getting it, we are not going to be able to get through to anybody. It's a panic situation. And when I call my doctor to make an appointment, I have to push four buttons before I get somebody to make an appointment with. So what good is that going to do me?

P(group), pg.11: No.

P10, pg.11: They don't know enough about it so...

P?, pg.7: The hospital.

P?, pg.7: Church.

P6, pg.11: The poison control center would have answers to things like that. Poison control at the hospitals, wouldn't they have all the knowledge if there was an antidote or something or what to do?

### **What are participants' perceptions about government and preparedness?**

- Moderate-low confidence that systems in place will keep us safe.
- One participant ranked his/her confidence on a scale of '1 to 10' with a '3' and then changed it to a '5,' indicated low confidence that these systems would keep the public safe.
- Contrastingly, other participants have trust that there are systems in place to keep them safe; indicated that in an emergency situation they would wait for directions from a more knowledgeable person.
- One participant noted that the newspaper reports unprepared government response ability, thus influencing his/her low confidence in a response system.
- Distrust of elected state and local government officials is high among respondents; laughter erupted after a question asking about confidence levels in the ability of officials to respond in a way to keep them safe. Laughter was followed by comments saturated with distrust.
- Suggestion of mayor as a source of emergency response information elicited an unenthusiastic response.

P3, pg. 12: Three.

P3, pg.12: Five.

P1, pg.12: Well I may be naïve but I'd say that there is something I'm suppose to do, something that comes out in some kind of notice or something, then there will be instructions from people who know what's going on. Instead of my imagining this is happening or imagining this is what I should do, I would wait for someone to tell me which way to go. I wouldn't take any chances. I wouldn't go out and sit down in a restaurant or anything like that, but I would wait because I still trust the people in charge to let me know if there is something I can do.

P6, pg.13: I'm with her. I'm pretty confident that they would give us information.

P3, pg.13: I don't have much faith in government agencies.

P5, pg.13: They come right out in the newspaper and say they're not ready. How are you going to get excited about that?

pg. 13: [Laughter]

P10, pg.13: They'd high tail it and cover their own butts.

P5, pg.13: A lot.

P5, pg.14: I'm not sure.

P10, pg.14: Yeah but lots of mayors wouldn't...

*What are participants' perceptions about the role of the media?*

- Participants agreed that telephoning sources in the event of an emergency is illogical because the phone lines will be too busy; radio and television seem to be the quickest to disperse information.
- One participant believes that television and radio use a scare tactic in order to best communicate information to the maximum amount of viewers.
- One participant measures the reliability of certain sources by the information they get; credibility of source seems not to be a priority.

P3, pg.11: You can't get through.

P10, pg.11: Of course that would be a scare tactic too. It would scare a lot of people. But better to know what's going on than not know I guess.

P3, pg.8: They are only as good as the information they get.

*What are other participants' perceptions of interest?*

- Participants praise first responders but worry about their ability to help everyone in the event of an emergency.

P3, pg.14: The fire department is wonderful...the information we need.

P10, pg.14: But that's in our building when we need them you know. If it's going to be all over, there's other people going to need them. So they're not going to be as free to get to you as they are now the way we do it.

Materials pre-test response

*How well do preliminary message materials address information needs?*

(Summarize participants' response to materials in terms of perceived usefulness, presentation of information, and informativeness.)

- Participants found the print materials useful and informative.
- They learned about botulism and the precautions to avoid danger.

- They learned about the methods of botulism development, the symptoms, that it is not contagious and that there is not a cure.

P6, pg.16: Exactly what botulism is.

P10, pg.15: What you can do to prevent it like cooking/boiling your water.

P3, pg.17: If you boil the water that would make the water safe anyway.

P1, pg.16: That's the spores that produce the toxin. The toxin has spores.

P2, pg.16: Tin can, lack of oxygen like in canned foods. If the spores are in the can, then the spores can develop.

P9, pg.15: And what you should do if you feel the symptoms of it.

P1, pg.19: It's not contagious.

P6, pg.15: That there is no cure but that there is a ...I didn't know that either.

P4, pg.15: There's no cure.

#### *What are unmet information needs?*

- Participants seemed to doubt that terrorists would use botulism because it is easy to avoid with precautions such as boiling water. They wanted to know how botulism could be detrimental if the recommended actions for safety were simplistic.
- Role of oxygen and spores in botulism.
- What to do with alcoholic beverages.
- Timetable for medical detection and treatment.
- Is someone working on a cure?
- Lack of understanding of transmission.
- How will the public get this information?

P10, pg.15: Okay they say the botulism is out there so everybody boils their food to make sure their stores are clean. If it's that simple, why would they bother?

P10, pg.19: Do you really think they are going to use something like that when something else can do more harm?

P5, pg.16: One thing it says, the conditions that need to be present like oxygen, etc. Does that mean in [???].

P5, pg.16: If a person consumes the spores, the lack of oxygen...where does that come in? They have already consumed it.

P7, pg.19: It mentioned alcoholic beverages, but it didn't say what to do about them.

P4, pg. 18: If the doctors can detect it and go ahead and treat you even if you...[???].

P3, pg.18: How much toxin do we have on hand if it happened today?

P4, pg.22: Is someone working on a cure?

P9, pg.19: Yes, but what I mean is since this is here...she said this is such a simple thing. It's simple true enough but I may have it and not know it, and I'm going out and not even washing my hands. This person over here may not have it.

P9, pg.23: I guess one of my questions is how could it get to the public? How could this information get to the public?

#### *How do participants respond emotionally to preliminary message materials?*

- Relief to know what prevention action to take.
- Scared.
- Surprised that it is not easily contracted.
- Afraid to eat or drink anything.

P?, pg.19: No. It makes me feel a little better.

P10, pg.15: What you can do to prevent it like cooking/boiling your water. It makes me feel a little better that way. It doesn't make me feel better about the breathing part because I already have trouble with that, but at least you know by preparing your food properly that maybe...

P10, pg.19: Less because I know for that one thing what you can do to counteract it.

P3, pg.18: A little smarter.

P9, pg.18: It wouldn't bother me that much because at this day and age with me I have nothing to worry about if I contract something like that. I would do my best to abide everything, water and cook food like it is suppose to be cooked, but other than that it wouldn't bother me.

P9, pg.18: No. I don't know, I've got to die with something. I can't live forever.

P3, pg.15: I'm surprised that there are so few ways to get it.

P8, pg.22: I'd probably lose weight because I would be scared to eat or drink anything.

P10, pg.19: A little scared.

#### *How credible are the preliminary message materials?*

- Participants perceive the informational fact sheets to be credible.

P(group), pg.21: Yes.

#### *How successful are materials in fostering self-efficacy?*

- Participants clearly understand risks of botulism.
- The group showed confidence and willingness to follow recommended actions for safety.

P2, pg.16: Hundreds of people would be infected because we didn't know what was going on.

P8, pg.16: Not everyone is going to know that they have to boil everything until it's too late.

P9, pg.20: No, no. They can't get it from me but if it come down in this room, two or three of us may come down with it today. Some may not come down with it until next week.

P10, pg.17: Boil water.

P1, pg.17: Follow these directions.

P?, pg.17: Now that we know what they are.

P8, pg.22: No problem.

P2, pg.22: If you are aware that it's actually here then you can do everything in here.

P2, pg.22: 10.

P10, pg.18: They should put ice in it and then it wouldn't be so bad.

P?, pg.18: Yeah but you have to boil the water before you freeze it.

*What are participants' recommendations for improving the materials?*

- Participants praised the report and believe that everyone should know this information. However, a few changes were recommended.
- Clarify why bottled water is unsafe and the role of spores.
- Address why botulism would be used by terrorists.
- Make information available for everyone (e.g., in Braille and a recording for the blind).
- Participants agreed that the print material was too long. Suggestions were to outline the necessary things and then the details.
- Target information to population.

P6, pg.16: I think it is a pretty good report. Pretty good commentary.

P?, pg.16: Everybody should know this.

P10, pg.17: But why bottled water, in case it was just....got it in there before probably. I guess I'll throw my bottled water away.

P10, pg.19: Do you really think they are going to use something like that when something else can do more harm?

P2, pg.23: This information is not available for everyone. It's not available in Braille and not available in a recording. I'm blind so I would need this information how I can get it.

P3, pg.23: Outline the necessary things and then the details. People don't...their attention is short.

P(group), pg.23: Long.

P8, pg.23: I think it could have been a little more clearer I guess. The first page as to spores and what they are and how all that takes place. Then they start talking about the bad stuff. It could be clearer.

P3, pg.23: For our age you could skip the breastfeeding.

*What are other participants' recommendations for preparedness?*

There are no additional recommendations aside from those mentioned above.

**PRE-EVENT MESSAGE DEVELOPMENT PROJECT**  
**Summary report of qualitative analysis of focus group**

**Population: Rural White**  
**Agent: Botulism**

Region: Midwest  
Focus group date: July 23, 2003  
Intercoder reliability: 78%

Prepared by the Health Communication Research Laboratory  
Saint Louis University School of Public Health  
Report date: August 29, 2003

## GROUP CHARACTERISTICS

What are the characteristics of the group?

Demographics of the group are presented in Table 1.

**Table 1. Group demographics**

Characteristic	Category	N (%)	Mean/SD
Age	Missing	0	48.50/24.37
Sex	Male	1 (25.0)	
	Female	3 (75.0)	
	Missing	0	
Education	Less than high school	0	
	Some high school	0	
	High school diploma or GED	0	
	Some college	3 (75.0)	
	College degree	0	
	Graduate degree	1 (25.0)	
	Missing	0	
Ethnicity/race	African American/Black	0	
	American Indian/Alaska Native	0	
	Caucasian/White	4 (100.0)	
	Other	0	
	Other (specified)	--	
	Missing	0	
Language in home	English	4 (100.0)	
	Other	0	
	Other (specified)	--	
	Missing	0	
Marital status	Single	1 (25.0)	
	Married or living with partner	2 (50.0)	
	Divorced or separated	0	
	Widowed	1 (25.0)	
	Missing	0	
Children	Yes	3 (75.0)	
	No	1 (25.0)	
	Missing	0	
Employment	Yes	1 (25.0)	
	No	3 (75.0)	
	Missing	0	
Family income	Less than \$10,000	0	
	\$10,000-\$19,999	1 (25.0)	
	\$20,000-\$29,999	0	
	\$30,000-\$39,999	1 (25.0)	
	\$40,000-\$49,999	0	
	\$50,000-\$59,999	0	
	\$60,000-\$69,999	0	
	\$70,000-\$79,999	0	
	\$80,000-\$89,999	0	
	\$90,000-\$99,999	0	
	\$100,000 or more	1 (25.0)	
	Missing	1 (25.0)	

• = median

The 4 participants in Focus Group 7 (rural, White; botulism) ranged from 19 to 77 years of age, with an average age of 48.50 (SD = 24.37). Three females participated (75.0%) and there was 1 male (25.0%). Most (3; 75.0%) had some college, and 1 (25.0%) held a graduate degree. All (4; 100%) were Caucasian. All (4; 100%) reported that their main language spoken at home was English. One (25.0%) was single, 2 (50.0%) were married or living with a partner, and 1 (25.0%) was widowed. Most (3, 75.0%) had children, while 1 (25.0%) did not. Most (3; 75.0%) were not employed, and 1 (25.0%) was employed. The median family income was in the \$30,000-39,999 range (1; 25.0% did not respond). This group was conducted at a rural health department.

## RESULTS OF ANALYSIS

### Executive summary of top concerns and topics of discussion

- In the hypothetical event of an outbreak, participants generally felt happier and safer after reading the information materials because they were aware of simple ways to prevent transmission in the event of an outbreak.
- Concern was expressed over the elderly having little contact with the community. Their contact is often limited to radio and television news; services should be available to serve the elderly in a bioterrorism emergency.
- Participants felt that information about how the food can get contaminated was not being disclosed; they suggested that this information be added.

### **Results of qualitative analysis, by conceptual domain:**

#### Pre-event knowledge

*What is participants' current awareness of the CAS, precautions, and different threats?*

- Participants have basic knowledge of the color alert system including the colors and their meanings.
- Being prepared is important; emphasis placed on getting as much info as possible.
- Participants had good understanding of chemical, radiological, and biological threats.

Most, pg.2: Yes.

P4, pg.2: I know that when it's orange I'm not supposed to go outside.

P2, pg.2: It's of varying degrees I think. Green means everything is fine. Yellow minor caution. Orange is serious caution. And red is better watch out.

P4, pg.2: I think knowledge as much as anything and what to look for or what to notice. And I think that is very important because you don't notice that you've noticed it until after it happens. And also to know what's available – protection.

P3, pg.2: Prevention. I mean preventative, what can we do. Like she said, the knowledge is very important. It could be just what you are trying to do here, getting the knowledge out.

Okay, what steps do I have to take? I have four grandchildren, so I am very concerned about them.

P4, pg.2: I would think any kind of gas or any kind of [??] well a chemical can be put in the water or just expend it into the air.

P2, pg.2: Anything from a dirty bomb to an atomic explosion.

P2, pg.3: Germ warfare.

### Response to hypothetical attack

*How do participants respond emotionally to a suspected or actual emergency?*

- Participants indicated that they would be frightened, concerned, and worried.
- Doubtful of news report that event was truly a bioterrorist attack.

P3, pg.3: Frightened.

P4, pg.3: Concerned very much as to what you should be doing.

P2, pg7: There would be some concern about maybe I shouldn't, I should watch what I am going to buy food-wise rather than what [??] if I've got plenty of food in the house, I might not go to the grocery store immediately to stock up on food because there's going to be a little bit of a time delay. That stuff might already be in our store. But, once again, that might not be my concern at that moment.

P3, pg.5: I wouldn't be positive that it would be a bioterrorist attack. 15 people [??] I mean I know lots of people aren't going who could be sick, but it could be food poisoning. I mean I think I've got this right.

*What do participants want to know in the event of an emergency?*

(Summarize participants' desired knowledge.)

- Facts about botulism: symptoms, signs, what to be prepared for, preventive measures, transmission information, antidote possibilities.
- Were the victims associated?
- Geographic location of victims and outbreak.
- What are the radio stations?
- Where and if people should go to get checked out: hospital, first aid stations, etc.
- How to avoid a panic situation.
- How to contact family and friends.

P2, pg.8: I'd want to know a little bit more about botulism. I'd want to know what the characteristics are, what the symptoms are of it, what to be prepared for, what the early signs are, and also is there anything that can be done even if you don't have botulism. Even if you haven't ingested anything with botulism, is there anything you can do to safeguard yourself from it in advance? Is there [??] I don't believe there is a botulism vaccine, but I don't know. I don't know those things.

P4, pg.8: Well and what your antidote could be if there was an antidote to keep available or to know what you could have or that you could use. And a lot of times some of those things are really quite simple if you just know them. But you have to know them.

P2, pg.9: And is there anything that botulism cannot infect? Like if you have [??] I know there was talk about how a can of vegetables can be infected with botulism and it expands and everything, so is it passable into meat? Is it passable into fresh foods? Is there anything that it can't be passed onto?

P2, pg.9: Transmission information, exactly.

P2, pg.3: I would want to know in advance what are the preparatory steps. I'd also be looking for as much information as possible especially concerning things that have been said recently by Bush and his people.

P2, pg.8: And again, is there a connecting element of where the victims [??] you know where we can start narrowing down where [??] Okay the botulism was released, where was it released? They don't know exactly where yet, but has there been any sort of connection between the people yet? Places where they work, eat, go to school.

P4: I don't know exactly how you would [??] I mean that's one thing we need to know. I know the N.P.R. is an excellent source of [??] That's a nice national public radio. I think that is where you get your B.B.C. and other things. And again your high-powered working battery would help you keep in contact. But I think you need to know where [??] and another thing you need to know, and I don't know how you find it out. 9.7 is the St. Louis N.P.R. but you can also [??] There's one that I get occasionally but I never know where it is. It comes from Texas and one from Chicago.

P4, pg.4: And with the focal point being St. Louis, you would want to know what was coming out of St. Louis, maybe even the bands that [??] getting back to the electricity, but getting the radio bands for the highway patrol and ambulance services.

P4, pg.12: Where their best first aid stations are or might be. And like she said, just get out the information of what is needed to be known.

P3, pg.12: And how many people are going to want to know? There's going to be some panic. Where can I go to be checked out? Should I be going to the hospital or what? And like you said, the local aid stations or something. You've got to probably put that panic factor in there. Okay, how can we avert that panic or evade it or whatever. What can we do?

P4, pg.5: Along with the phone situation also, my children are scattered. I have some in northern Missouri and some in southern Missouri and one in Texas and one in Indiana. I'd be wanting to get in touch with them. See what they had heard and what had happened.

*Where do participants seek information in the event of an emergency and why?*

- Radio and television because they broadcast immediate information.
- A battery operated radio is essential when the electricity is cut off.
- Foreign media is a good source because it gives different views and information than American media.

- Participants are reliant on the Internet; they would seek reliable news, government, and Yahoo News search sites and be cautious of unreliable information. It was pointed out that the Internet may take longer than television and radio sources because of the timeliness of information conversion into a print format. Additionally, Internet searchers claimed a willingness to search at odd hours in order to access crowded servers.
- Television: CNN, CSPAN, and satellite channels.
- Local newspaper because it is reliable, informative, lists alternative sources, and may produce additional sections based on emergency information.

P4, pg.4: Well I think one thing you would really [??] and it has kind of gone away, and of course this comes for WWII, we always kept a battery radio as well as an electric one so we could get information. And that would be one of the main [??] there should be a back up for your electrical system. I can tell you when your electricity goes out it's a devil. We just had a refrigerator go out, and you don't realize you terribly dependent you are on that sort of thing. And always back up for light with candles or oil lamps or something that can back up your electricity. Of course that comes from living on the farm. Every once in a while the electricity goes out.

P1, pg.7: Well television if it was just something like that. If it's serious I'd always go to the Internet first, assuming we have electricity and all that.

P2, pg.4: I would go not only to American media but the foreign media. Check out B.B.C. and some of the other places because not only do you get what's being said in this county but you're getting some information from other countries that have quite a bit different view. Many times on what is exactly going on. You may find information that completely contradicts. Then you will need to go into it even further if you have contradictory information.

P2, pg.4: I would go to the Internet, but once again it's [??] Internet is also a place where you are going to find misinformation. So you have to be pretty selective about where you are going as well.

P1, pg.7: Probably just news sites or government sites. Whatever I could find that looked like a reliable source.

P2, pg.7: Yeah, Yahoo news search would be the easiest place to go. Just type in Missouri bioterrorism threat or Missouri botulism bioterrorism. But once again, the Internet is great once you have the information to put on it, but somebody has to spend the time putting it together before it's actually going to get on there. So a lot of times it's quicker to just say it on the radio or TV before it is put into print and formatted into the Internet.

P2, pg.9: I would probably continue going to the same places. And I'm sure that there's going to be new places that are opening up with information as well. I'll be keeping my eyes open for [??] if I see on the news that there's a new website that's dedicated directly to this issue, I'll be one of the millions of people that are jamming the Internet trying to find out that information. But I'd do it at 2 o'clock in the morning or whenever I had to so that I could get that info.

P3, pg.9: I'm a daily St. Louis Post-Dispatch reader and have been my entire life. I don't think I have ever missed a day of the paper, so I rely on that and these other sources too. But

they do a pretty thorough job of getting the story out, and it is always accurate. I would go there. I'm sure there would be lots and lots of what to do. I'd go to the what to do, the what not to do, what to look for. I'm sure all of these things are going to be there in the Post.

### **What are participants' perceptions about government and preparedness?**

- Participants hold both positive and negative views of the government in terms of preparedness; the majority seem to be confident in the government's push to become more prepared, especially as terrorist threats increase.
- It was critically noted that bureaucracy efforts to increase preparedness are affected by its lack of timeliness and budget-based decisions.
- Participants want to be told where to get additional information.
- Town hall meetings as well as radio and television interviews disperse information that the people want to hear.

P3, pg.10: See, I'm more confident in my local officials here lately. Maybe they are doing a snow job on me, but I think I've been noticing that they have been trying to be more aware of preparedness.

P2, pg.10: I think they would be more likely to be interested in public welfare than personal welfare, which seems to be [???

P2, pg.11: I don't think there is enough that has been focused on quite yet. I think that more and more with bigger threats every day there's going to be more and more done, but we're talking about bureaucracy. And how quickly it is going to be done and how much is going to be done is all going to be based on lowest bidder. Who can do it cheapest rather than who can do the best.

P1, pg.12: What they want to hear basically. Just what we have been saying, all of this stuff. We want more information. Just tell them where they can get information if they want it or that everything is under control right here in our area.

P2, pg.12: Town hall meetings. Radio interviews. Newspaper interviews. Be wanting to release information of so far there have been no, there has been one, there has been 12, whatever it is cases in this area. These are the facts that we know so far. I would have to [???] and I would have to [???] immediately step back and here is the local expert on it. Say here's the basics, you've got this much information but you need more and here's the person who actually knows what it is.

### *What are participants' perceptions about the role of the media?*

- Participants regretted the loss of numerous local small town-radio stations; they expressed hope that local small town-radio stations would receive information from bigger cities (e.g., St. Louis or Columbia) in the event of an attack.

P2, pg.11: If I were still in radio I'd be calling different people like the people that were involved in the hospital. Usually they have [???] if the person that I am talking to is not the expert, they are going to be able to provide me with the names of experts and I would be

getting that information. I would be passing it on to other people, but I would be getting the information myself the same way. I would be hoping that the other fairly local radio stations, the Warrenton radio station, would be doing exactly the same thing. Because they will get [??] if we have one of our local stations which right now is really just the Warrenton station, they would be contacting people at Crossroads, they'd be contacting people at St. Joseph, St. Luke's. I am sure that they would try to reach people in St. Louis, but they would be first of all starting off locally and finding out what information is there and getting to the experts as quick as possible. You get more dialog out there, you have people calling in on the phone. They are going to be asking more questions. I think that local media is really where you can get the information out best. I would be hoping that the people that are working at the radio stations are thinking along the proper lines and at least give it to you.

*What are other participants' perceptions of interest?*

- Information given out by the medical and emergency responders would make the public feel more secure.
- The 911 emergency system was praised. Belief that they have quick response and are working to improve response time even more.
- Concern was expressed over the elderly having little contact with the community. Their contact is often limited to radio and television news; services should be available to serve the elderly in a bioterrorism emergency.
- The health department, state patrol and local weekly paper would be good sources of information in the event of an emergency.

P2, pg.11: Provide information.

P3, pg.11: I like the idea of at least 911 is in place here. I mean that is relatively new in this county. I know that when I had a minor fender bender last fall they were there immediately to the accident scene. I know they are trying to speed things up that way.

P4, pg.14: Then too when you are kind of confined and you don't get out, you don't see things, you don't meet people or things like that, your radio and television are your only contact. And you kind of stagnate, you don't [??] Well I think one thing, and I always thought it was the nursing profession, that one of the main things they needed to know was how to get in touch with somebody, where to get things, where you could get services when you wanted them, and surprisingly Lincoln County is very [??] has a lot of services if you dig in and find them.

P4, pg.10: Well they use to have a pretty good information center.

P4, pg.10: Well both the hospital and the state patrol and our own local weekly, they get a lot of information that they cannot use because they don't have enough space. They would have information that you might be able to get.

P2, pg.10: And the health department just up the street as well would be another. The same people who do the restaurant inspections are probably going to be getting as much information as possible. They may have some things. None of us have said that we would be contacting our government representatives so far.

### Materials pre-test response

#### *How well do preliminary message materials address information needs?*

- Participants seemed to gain a wide range of knowledge from pre-test materials including what botulism is, prevention methods, and treatments.

P3, pg.14: I thought treatment is a main point. The question is there a cure for botulism, people are going to be very interested in that.

P2, pg.14: And prevention. That it's pretty easy to keep from getting it if you know that it's out there. All you need to do really is cook your food hot enough and long enough, boil your liquids hot enough and long enough and keep the surfaces clean and you're pretty much in good shape from getting it.

#### *What are unmet information needs?*

- When is it too late for treatment?
- Effects of botulism: Does it affect different populations such as the elderly, children, or HIV-infected differently?
- Participants wanted to know specifics of food contamination: Are prepared foods such as bread, lunch meat, or chips safe? How does food become contaminated?

P2, pg.15: My question was in the management section. We talk about early diagnosis, but what if you go over to your grandmother's house and she's further along than early diagnosis? When is it too late for treatment?

P2, pg.15: Does it hit the elderly and children stronger? We talked about how HIV patients are at an added risk. But if your immunity is down I would expect that anything is going to hit you harder and that goes for HIV or age. But I don't know.

P2, pg.18: There are things here in the food that aren't addressed, which are prepared foods, chips, pudding, anything like lunchmeat, bread. These are all things you can't boil or really cook. What about, there should be something about what you can do with these foods.

#### *How do participants respond emotionally to preliminary message materials?*

- Overall concern for family.
- Participants felt happier and safer after reading the information materials because they knew simple ways to prevent transmission in the event of an outbreak.
- Knowing botulism facts in the event of an outbreak would eliminate worry and questions about inoculations and other precautions.

P2, pg.17: I'd be checking up, as I said, my relatives who may not have as much access or maybe don't see people on a daily basis, make sure that they are okay. Also, once again, the prevention, preventative measures would be [??] and I'd be watching myself and family for any symptoms to show up. And as soon as they do, go for treatment.

P2, pg.20: I think I said it earlier, it makes me happy to know how easy it is to prevent it. If we were told there was a botulism outbreak and that food has been infected with botulism, if I don't have it, it will be very easy to prevent getting it. That makes me feel good. Also that treatment is available for it rather than if you've got it you're going to die, period, that's it. It's good to know that there is treatment available, not a cure. The treatment is explained and ....

P3, pg.20: I'd feel a lot safer after reading this rather than being worried about the idea of needing inoculations and all the worries about that.

#### *How credible are the preliminary message materials?*

- Participants felt that the material was credible, reasonable, believable, and thorough.
- The material motivated participants to be more cautious in food preparation.
- Participants felt that information about how the food can get contaminated was not being disclosed; they suggested that this information be added.

P1, pg.20: I don't know how credible it is, but it all seemed reasonable to me. I mean there wasn't anything that was really out there that I wouldn't believe or anything like that.

P4, pg.20: I thought the information was pretty thorough. And it also made me feel like I need to be more cautious in the care taking of food and things like that.

P2, pg.20: I didn't read anything and go – “that's just wrong.”

P3, pg.20: Just what P2 said earlier, the idea of how could the food get contaminated. I think people would want to know that.

#### *How successful are materials in fostering self-efficacy?*

- Participants demonstrated a great understanding of the risks and a willingness to follow recommended actions.
- Additionally, they expressed confidence that the recommended actions would keep them safe.

P4, pg.17: I think that definitely the one main thing you would want to do is be sure that you abided by those preventions with your boiling and cooking thoroughly. I think a lot of times everybody has gotten so, well, just cook it enough to make it tender or just cook it enough to make it tender-crisp or something like that. Well that's fine on some things but there a lot of things that go through a market or through some place else. Other people handle and maybe it's not botulism but something else that you could pick up. Really they need to go through a little more cooking.

P2, pg.21: I feel pretty confident.

P4, pg.21: Very confident.

#### *What are participants' recommendations for improving the materials?*

- Participants recommended to stress the point that there is not a cure for botulism; the lack of cure makes the prevention methods even more pertinent.
- Participants wanted the information to be reorganized so that the most important information (e.g., transmission of botulism) would be read first.
- Participants want clarification on food contamination: how does it occur?

P3, pg.16: And also when it mentioned, and I think I've said this in maybe a little different way, treatment, is there a cure for botulism? No. I think this needs to be stressed. No. There is no cure. But you had better...they mention anti-toxin. I think that needs to be first page because later on since there is no cure, and there is this limited treatment. Okay here's what you can do. You better be doing this right now to prevent it rather than four pages later.

P3, pg.15: I just have some comments about some things like the question "Can I get botulism from being injected with Botox?". Now I know that's getting out there with a lot of celebrities and probably ordinary people are getting Botox injections and for different things besides just cosmetic, but I didn't think that was extremely important to be in here. Also, I didn't like its placement. I mean I'm a former English teacher, and I was looking at the way these things were arranged and I thought that some questions should have been earlier. I want to see the most important things to me first. And I didn't think Botox transmission was as nearly as important. And "Can I get it from CPR?" I think those might be additional questions to be answered later or something. But if people are going to see this in a pamphlet or something, I think there is a little too much here. I think that some could be "For more information, see an additional article" or something like that. Like I said, "Can botulism be spread from one person to another?". I thought that should have been much earlier. That's on the third page. I thought that should have been earlier. I think the people who don't know anything about botulism [??] this idea here of if the spores are found in the environment, why don't people get sick and reasons why, I didn't think that was nearly as important and that's right at the very beginning. I don't have a clinical mind or a scientific mind and I don't want that right away. I want to know okay there are three types. Okay, now I want to know....I mean even the HIV or cancer patients, I mean that's important don't get me wrong. People who have HIV or cancer, it's important to know whether they can get it more easily or so forth or get infected by others, but again I don't like that right away.

P3, pg.16: I want, okay, can I get it from others? How are we going to get it? And what are the symptoms? That should be right here first page as far as I'm concerned.

P2, pg.19: There might be an example somewhere in there of how the food got infected.

#### *What are other participants' recommendations for preparedness?*

- Participants recommended creating a general slogan such as "Boil it, cook it, forget it," in order to communicate the message to a wider audience.
- Dissemination of this slogan should be put into a pamphlet or put on grocery store signs.

P2, pg.20: So you can have one pamphlet that is nothing but the "Boil it, cook it, forget it." That could be a single pamphlet that would be at the grocery store simply for preparation.

This is a good one for people who are wanting the information, but if you're trying to just get it out to everybody, use a much more generalized version. But if you...okay you've got your little pamphlet and for more information this is where you would go to probably.

P3, pg.18: I think there needs to be as a further prevention if we really think there is an outbreak here, there needs to be signs in the grocery stores – boil it, cook it, forget it. Things like that other places besides just in our information. I'm sure there would be more, but more than just reading an article put out in some way. There needs to be reminders.

**PRE-EVENT MESSAGE DEVELOPMENT PROJECT**  
**Summary report of qualitative analysis of focus group**

**Population: Frontline Public Health**  
**Agent: Botulism**

Region: Southeast  
Focus group date: August 7, 2003

Prepared by the  
School of Public Health, University of Alabama at Birmingham (UAB)  
Report Date: August 25, 2003

NOTE: Although this focus group was smaller than usual (four participants), a decision was made to keep and analyze the results because the group's interactions and comments were especially rich .

## GROUP CHARACTERISTICS

Characteristic	Category	N (%)	Mean
Age	Missing		27.75
Sex	Male	2	
	Female	2	
	Missing		
Education	Less than high school		
	Some high school		
	High school diploma or GED		
	Some college		
	College degree	1	
	Graduate degree	3	
	Missing		
Ethnicity/race	African American/Black	2	
	American Indian/Alaska Native		
	Caucasian/White	2	
	Other		
	Other (specified)		
	Missing		
Language in home	English	4	
	Other		
	Other (specified)		
	Missing		
Marital status	Single	2	
	Married or living with partner	2	
	Divorced or separated		
	Widowed		
	Missing		
Children	Yes		
	No	4	
	Missing		
Employment	Yes	4	
	No		
	Missing		
Family income	Less than \$10,000		
	\$10,000-\$19,999	1	
	\$20,000-\$29,999	1	
	\$30,000-\$39,999		
	\$40,000-\$49,999		
	\$50,000-\$59,999	2	
	\$60,000-\$69,999		
	\$70,000-\$79,999		
	\$80,000-\$89,999		
	\$90,000-\$99,999		
	\$100,000 or more		
	Missing		

## RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

- ❖ Participants displayed knowledge of the different types of terrorism. Participants could readily distinguish between chemical, biological, and nuclear/radiological terrorism. However, many still had questions.
- ❖ Participants exhibited high levels of information seeking
- ❖ Participants indicated they would seek out information about specific threats from a variety of sources. These sources included television (state and local programs), radio, internet websites, the military and the public health system.
- ❖ Participants' responses to the fact sheets were by and large negative. General consensus suggests the information was believable and correct for a professional audience, but the information was inappropriate and insufficient for the general public.
- ❖ Participants said that the information on the fact sheets could be disseminated in a variety of alternative formats including television special segments, public service announcements and multi-stage pamphlets
- ❖ Participants stated that materials were too advanced for general public audience, suggesting a new "bare bones" approach with lower literacy levels and action steps.

### **Results of qualitative analysis, by conceptual domain:**

#### Pre-event knowledge

*What is participants' current awareness of the CAS, precautions, and different threats?*

- ❖ CAS per se was not explicitly covered in this focus group
- ❖ Participants indicated knowledge of the different types of terrorism. Participants could readily distinguish between chemical, biological, and nuclear/radiological terrorism.
- ❖ But participants had many questions about WMD issues.

"I believe I have a fairly good understanding of the concepts. I'm not an expert by any means."

"I think it is such a new topic. There's so much that is still new. I just haven't seen a lot of research or information out about this stuff. Though I may feel that I know a lot about one area or another, I still feel there is a lot of room for education that I haven't learned much about."

"What I know is from things I've experienced. I know enough to know where to go. I don't know enough to answer questions on top of my head. I am probably not real good at that."

#### Response to hypothetical attack

*How do participants respond emotionally to a suspected or actual emergency?*

- ❖ Participants did not discuss their emotional responses; rather, they intellectualized their responses, substituting questions and likely actions for emotions

"I guess I will want to know what part of Birmingham this was going on in, I would like to know if there were some way I could have been affected by this."

“What was the transmission method. Was it a type of food or type of water? Then I could avoid certain things.”

“I would try to find out mode of transmission, those affected, in what populations and people who are affected.”

*What do participants want and feel the public needs to know in the event of an emergency?*

- ❖ Method of dispersal (transmission method)
- ❖ Populations affected
- ❖ Geographic location of outbreak
- ❖ Specifics about the agent
- ❖ Where to go if affected
- ❖ Why did this happen?

“They're also going to need to know where to go. Do I just come in and see you if you're of the health department? Where do I go to for treatment? That's what I'll want to know.”

“They're going to want to know where this outbreak was how was it transmitted. What are the signs?”

“To be honest the public sometime wants to know more than where, but more and these are questions that I might not be able to answer. Like why did this happen, what's going on? These are things that I might not be able to provide to them. The general public might be interested in knowing them.”

*Where do participants seek information in the event of an emergency and why?*

- ❖ Participants favored the CDC's website as a primary source of information.
- ❖ Other sources included:
  - Local news reports
  - National news reports
  - Radio
  - Internet
  - Health Department

*Where do participants feel that the general public would go in the case of an emergency?*

- ❖ Participants felt that the majority of the general public would go to television for their information.
- ❖ Additional sources include
  - Church leaders
  - Friends
  - Neighborhood organizations
  - Gatekeepers
  - Radio
  - Internet

“I can just picture it. They're going to want someone on the TV, the whole press conference. This is what's going on, maybe we can't tell them who did it, that is going to be a question, but this is what is going on, this is what you can do, This is what to do in this situation. Just very basics of what you need to know and just a basic fact sheet that you can give them information on vaccines and treatments. You will need to have all of that at hand where we can pull it and not to rely just on web pages. Give them some sort of information so that they can spread the word themselves. They are willing to go for that type of information but personally, I go to CDC's web page.”

“Church leaders, other groups, organizations, neighborhood gatekeepers, friends. That's why accurate information. We know that pertinent information passes or defuses among the people were really fast and misinformation travels fast so we want to make sure that we give out accurate information. Just telling one gatekeeper for one community, and the next thing you know one neighborhood believes one thing.”

*What are participants' perceptions about the role of the media?*

- ❖ Specific roles of the media were not specifically covered in this focus group.

*What are other participants' perceptions of interest?*

- ❖ Participants indicated that it was the primary responsibility of the local health departments and other governmental agencies to respond to disseminate information in the event of an attack. Respected public officials were also named.
- ❖ Participants feel that agencies are in general not prepared for and incident of this magnitude.

“Totally agree with the health department as well as any governmental association. Not only the CDC but locally I think the local health department probably should bear most of the burden”

“ I think the health department but I also think you're going to have to have respected government leaders. If you have a smaller town the Mayor is really respected.”

“I think a lot of places are devising some plans now. Once we have some event happened in the U.S., I think a lot more agencies will have plans as well. But personally, outside of the agency, it's not really any thing that I've thought about.”

#### Materials pre-test response

*How well do preliminary message materials address information needs?*

For professionals Participants easily identified main points of the fact sheets.

- ❖ Participants indicated that there was excessive amount of information contained in the sheets in relation to the amount of essential information needed

For public use

- ❖ Participants indicated the message should be simplified with more direction.
- ❖ Participants indicated that readability of the document exceeds levels of comfort for the general public
- ❖ Participants agreed that the layout was confusing, with segment just inserted with no real purpose or goal.
- ❖ Participants indicated that the document did not seem to have clear goals and objectives.

“I really thought it could have been broken down a little bit better. Words that may seem natural, and things that we may assume the general public would know - for instance, I circled spores. It may seem like a common word, but I think it could raise questions to the general public.”

“I think you could put things in parentheses like places after toxins so that you don't turn off or alienate more educated people. But I think you have got to write it on such a low level. Eighth grade used to be the main, now you have to write at a sixth grade level so that you can make sure that as many people as possible can understand it. There are things that are sort of thrown out there and dropped. People aren't given enough information.”

“I agree because the general public is just not going to read all of this”

“What happens is that you miss a part and if you miss the pertinent information that you need to get across because you have all this other stuff and they need to say what is important in the first five minutes. That needs to be front and foremost.”

*What are unmet information needs?*

- ❖ Information on what to do if you have symptoms.
- ❖ Contact information for treatment centers
- ❖ Operational definitions of key terms.
- ❖ A link between botulism and bioterrorism.
- ❖ The method of weaponization for botulism.

“In this scenario we're talking about bioterrorism, but in the fact sheets there is no mention of bioterrorism. there's no information about how to use this in a bioterrorism attack, it just doesn't make a lot of sense. There is no link”

“At what point should you worry. It talks about the antitoxins and it says if you give its soon the severity will not be as bad down. Below you say it may be helpful but then up above you say that it may help. It doesn't make sense. I want to know what it will do for me what am I supposed to do. Where do I go?”

“It says go to your state and local health department but what is their number? Where do I go? It also talked about other people as well. Well for those others, just saying health care for officials and agencies is not telling me anything.”

*How do participants respond emotionally to preliminary message materials?*

- ❖ Participants felt the document provides no feeling of empowerment for professional or the general public.
- ❖ Participants indicated that this document could cause distress in the general public.
- ❖ Participants feel that the general public would have an increase of anxiety and fear
- ❖ Perceived susceptibility of being poisoned by botulinum toxin would increase in the general public.

“Like whenever two said earlier that the fact she should make you feel empowered, well I do not feel in power but I do feel that what she said was very important. I like that statement”

“I think that with all this about terrorism and getting things ready, this is to something else that's going to be left, it also makes it look like a common disease and bacteria so what's the big worry. If they could be used an attack this did not get data from stemming at this point I'm just not that worried about an it's just basically cooking. That's a bit I would want to know, what the purpose was behind it.”

“I agree totally. Is the goal to give people definitions? Is the goal to get people to a boil their water? Let's figure out the goal and then we can look at some material and see how they'd fit in.”

“Just reading through, there were some terms in the sheet that could cause them anxiety like toxins and dirty bombs and things like that. But also the missing information might cause confusion. It didn't seem like the Physicians know a lot about this”

“It might increase the number of hypochondriacs you might have”

*How believable are the preliminary message materials?*

- ❖ Participants commented that materials seemed believable.
- ❖ Participants also stated that the confusing layout and inconsistent statements could cause the general public to find the information not believable.

“One thing that may create some doubt is the section on breast feeding. It says that it's not contained in breast milk but then it says if you feel that you have been exposed and you are breastfeeding and go seek immediate attention. It is just little statements like that are not consistent that add to its non believability and anxiety.”

*How successful are materials in fostering self-efficacy?*

- ❖ Participants indicated high self-efficacy for carrying out recommendations outlined by the fact sheets, but questioned if any of the recommendations were useful to the general public.

*What are participants' recommendations for improving the materials?*

- ❖ Participants agreed that the length of the fact sheet was excessive.
- ❖ Participants agreed that literacy levels were too high.

- ❖ Participants had a desire for a list of places to go in the event of an attack.
- ❖ Participants wanted to see a bulleted list of simple directions.
- ❖ Participants indicated that developers of the fact sheet need to identify clear goals and objectives for the document.

“I would need to know the link to a bioterrorism attack. That is something that I would want to know. We also need to know just a quick bulleted sheet of information to have for professionals as well.”

“Just a little more of being forthcoming with the public. If there's not you say that there's an anxiety. Get things cleared up and things need to be brought down on a fourth or fifth grade level at least.”

“I agree this is way too much information for the public. We need to cut it down.”

*What are other participants' recommendations for preparedness?*

- ❖ All recommendations are noted above.

**PRE-EVENT MESSAGE DEVELOPMENT PROJECT**  
**Summary report of qualitative analysis of focus group**

**Population: Rural African American**  
**Agent: Botulism**

Region: Southeast  
Focus group date: August 2, 2003

Prepared by the  
School of Public Health, University of Alabama at Birmingham (UAB)

## GROUP CHARACTERISTICS

Characteristic	Category	N (%)	Mean
Age	Missing		39.6
Sex	Male Female Missing	2(29%) 5(71%)	
Education	Less than high school Some high school High school diploma or GED Some college College degree Graduate degree Missing	1(14%) 4(58%) 2(28%)	
Ethnicity/race	African American/Black American Indian/Alaska Native Caucasian/White Other Other (specified) Missing	7(100%)	
Language in home	English Other Other (specified) Missing	7(100%)	
Marital status	Single Married or living with partner Divorced or separated Widowed Missing	3(43%) 3(43%) 1(14%)	
Children	Yes No Missing	6(86%) 1(14%)	
Employment	Yes No Missing	3(43%) 4(57%)	
Family income	Less than \$10,000 \$10,000-\$19,999 \$20,000-\$29,999 \$30,000-\$39,999 \$40,000-\$49,999 \$50,000-\$59,999 \$60,000-\$69,999 \$70,000-\$79,999 \$80,000-\$89,999 \$90,000-\$99,999 \$100,000 or more Missing	2(29%) 1(14%) 2(29%) 1(14%) 1(14%)	

## RESULTS OF ANALYSIS

### Executive summary of top concerns and topics of discussion

- ❖ Participants indicated significant levels of distress in response to scenarios presented during the focus group. As the scenarios progressed from non-specific to specific, the distress escalated as the situation became clearer. Specific concerns included self-protection, concern for family and friends, and sources of contamination.
- ❖ Participants could not readily distinguish between chemical, biological, and radiological terrorism. Agent-related terms were used interchangeably in participant responses.
- ❖ Participants in this group displayed distrust and lack of confidence in the police, fire, and emergency response system. This distrust extended to local elected officials and statewide officials as well.
- ❖ Participants indicated they would seek out information about specific threats from a variety of sources. These sources included radio, local news programs and national news programs. Hospitals and emergency responders were also named as sources of information.
- ❖ Participants' responses to the fact sheets were by and large positive. Responses suggest high levels of self-efficacy to complete tasks outlined by the fact sheets. Negative comments related to readability, confusing concepts, and lack of information about places to go if an attack occurred.

### **Results of qualitative analysis, by conceptual domain:**

#### Pre-event knowledge

##### *What is participants' current awareness of the CAS, precautions, and different threats?*

- ❖ Participants exhibited some evidence of knowledge of the CAS. Participants had a loose knowledge of colors and levels.
- ❖ Participants could not easily distinguish between the different categories of threats, often mixing jargon and terminology between the three.
- ❖ Participants were more aware of concepts and precautions for nuclear and biological, rather than chemical.

"I know that when it is red I know we are just about out of here. The high alert and the severe alert and the codes, the different codes, I can't really pronounce it, the codes like yellow and orange and red and...."

"Yeah, the highest code is red."

#### Response to hypothetical attack

##### *How do participants respond emotionally to a suspected or actual emergency?*

- ❖ Participants exhibited significant levels of distress.
- ❖ Perceived susceptibility to attack exists at high levels even in a rural setting.
- ❖ Participants find emotional comfort in spirituality.
- ❖ Participants suggest a flight instinct would engage in response to a suspected attack.

“I’ll get up and leave.”

“I would fall on my knees. I would just start praying to save my soul.”

“The population is not that large so what do we have here, like to protect us, you know?... It is not that large a county and we have no protection.”

“The only thing they are saying is about putting the plastic up at your window and get to one room. I don’t see that would have no affect on you either. The only thing I see is to say your prayers and hope that you are surviving.”

*What do participants want to know in the event of an emergency?*

- ❖ Source of the threat
- ❖ What will happen in the future
- ❖ Self-protective measures
- ❖ Where to go
- ❖ Government and emergency response to the situation
- ❖ What supplies are needed to survive the threat

“Exactly what it is, maybe we might know how to deal with it, you know, and sometimes it is a possibility that if they have a red alert, it can be false. So you really want to try to find out more information concerning it.”

Where it came from? What happen?

*Where do participants seek information in the event of an emergency and why?*

- ❖ Participants favored the radio as the preferred method for getting information.
- ❖ Other sources included:
  - Local news reports
  - National news reports
  - Hospitals
  - CDC website

“I think after praying, I would turn on my television and radio and see if I can find out more about it and see exactly what is going on.”

“Yea, I like to listen to the news on the radio too. That is where I get most of my news from.”

“I guess I would have to get on the telephone cause I never listen to a radio. You will have to call me.”

“I think they go some kind of way themselves to get across on that wave on the radio and that is the reason they want you keep the radio, even if the electricity, buy batteries, a radio can run off batteries and keep that radio on.”

**What are participants' perceptions about government and preparedness?**

- ❖ Participants were distrustful of the government.
- ❖ Participants exhibited lack of confidence in the government's ability or desire to protect them from a threat of any sort.
- ❖ In addition, participants expressed a lack of confidence that the police department, fire department, and emergency response systems would respond.

"And like [in a nearby city], they have a shelter, but a lot of blacks don't know where it is, it is for the white people."

"I don't feel like we don't have nobody protecting us"

"If it is election time, then that is about the only time you would see them."

"Politicians have lied so much. They have been let down so many times, especially the black people, they have been let down so many times and mislead, like you go to a door to door campaigning, and you tell them what you going to do, what you going to do for the community, what you going to do for health care and all this and when the time comes, they are like "oh, oh, ok"

*What are participants' perceptions about the role of the media?*

- ❖ Specific roles of the media were not covered in this focus group.

*What are other participants' perceptions of interest?*

- ❖ Participants likened WMD events to weather events.
- ❖ Participants likened botulism to an invisible gas, more than a biological toxin

"Just another thought, I think it all depends on which way the wind is blowing, you know, if the wind is blowing in our direction, yes, we would be affected. But if the wind is blowing in another direction, maybe not. The wind carries it. So it just depends on which way the direction the wind is blowing."

Materials pre-test response

*How well do preliminary message materials address information needs?*

- ❖ Participants saw the fact sheet as positive.
- ❖ Participants feel the fact sheets provide good information on response and self-protection.

"It is good information."

"It gives you answers you were looking for."

“It is showing you that it can be dangerous but it is controlled.”

“It is something that even with this being a focus group here, it is something we can, you know, just tell others about certain things, you know, and how to keep food, and, you know, how the spores are grown, how the bacteria grows on certain food and it said if you can’t clean it, you can’t boil it then forget it, throw it away. That means there are some things you just need to count as a loss. Other things was like, if countertops and how boiling it to a Fahrenheit of 75-85 degrees, you know, and if you can’t boil it, then you need to put it in the oven to cook it at, at least, I guess, 375 or 325 degrees until, and that leaves out the rare. You know, if this food might have botulism in it, eating rare it’s not good, because you still are not cooking it out, you know, because it has to be cooked out.”

*What are unmet information needs?*

- ❖ Participants felt that the fact sheets met their basic informational needs.
- ❖ Participants felt that no information was being withheld.

“ No, but I did see a web site on here didn’t I? A way you can get information as it becomes available.

Another thing, why this information is important, because we can give it to other people. This is information we can give it to other people, this is information that we can share with others to educate them on it.

*How do participants respond emotionally to preliminary message materials?*

- ❖ Some participants reported a feeling of empowerment from the information on the fact sheet.
- ❖ Other participants reported that the length of the document could cause distress.

“Well you know, people are discouraged because of the lack of knowledge, and with the information we have gotten here, it has increased our knowledge about this particular thing here, so if anybody around us, if this scenario that we were going threw had have had information on botulism, they would have said, you know, hey, will we know how it comes, we know what you need to do, and don’t have a panic attack and those panic attacks would cause people to go into exile for a while if they didn’t have this information that we have here today. So if someone would have had the information when we were panicking, everybody wouldn’t have panicked because somebody would have had, you know, hey, it is going to be ok.”

“First of all, this is a lot of information if a person doesn’t like to read.”

*How believable are the preliminary message materials?*

- ❖ Participants commented that materials seemed believable.

- ❖ One participant mentioned that even though the material seemed believable, additional sources of information would be sought out.

“Oh, I believe it because I have studied bacteria. I am a cosmetologist and we talked about the helpful bacteria and the unhelpful bacteria and spores or one of the ones we studied. Bacteria cause infection and other disease. One of the things we learned was the difference between at bacteria and a virus.”

“I believe it, but I wouldn’t rely solely upon it. I would go and do other research to make sure.”

*How successful are materials in fostering self-efficacy?*

- ❖ Participants indicated high self-efficacy for carrying out recommendations outlined by the fact sheets.

“I feel pretty good, like boil your water, countertops in bleach.”

“Using Clorox to get rid of germs.”

“Make sure that my children’s bath water was hot.”

*What are participants’ recommendations for improving the materials?*

- ❖ Participants agreed that the length of the fact sheet was excessive.
- ❖ Participants agreed that literacy levels were too high.
- ❖ Participants had a desire for a list of places to go in the event of an attack.
- ❖ Participants wanted to see a bulleted list of simple directions.
- ❖ Participants would like the source of information identified.

“If you did put some of the other types of information, you would let them know they could go to these other sources and find this information.”

“Cause a lot of times when they see information like this, which is helpful and good, but when they start looking at those big words they are going to put it down because they going to feel like they can’t understand it.”

“One thing I would suggest is that, with anything you are giving to the community, is to make sure it is on the level that everybody can understand it.”

*What are other participants’ recommendations for preparedness?*

- ❖ Participants indicated the best way to be prepared for an attack is to “stock up” with supplies.

“Stock up on can foods and stuff like that, water.”

“Now, you know when we had the millennium coming in, 2000, and they were talking about all these things that were suppose to happen, there were some terrorism threats, you know, attacks that were in their mind and people stocking up on water, propane tanks”

**SOUTHWEST CENTER FOR PRE-EVENT MESSAGE DEVELOPMENT**

**Summary Report**

**Population: American Indian**

**Agent: Botulism**

Region: Oklahoma

Focus group date: July 25, 2003

Intercoder reliability: 80%

Prepared by the Department of Health Promotion Sciences  
The University of Oklahoma College of Public Health  
Report date: August 29, 2003

## GROUP CHARACTERISTICS

What are the characteristics of the group? (Demographics range and mean; other unique characteristics noted by the project staff in reports; other distinctions of location, host organization).

Characteristic	Category	N (%)	Mean/SD
Age		9 (90)	41.89/14.91
	Missing	1 (10)	
Sex	Male	5 (50)	
	Female	5 (50)	
	Missing	0	
Education	Less than high school	1 (10)	
	Some high school	1 (10)	
	High school diploma or GED	6 (60)	
	Some college	1 (10)	
	College degree	1 (10)	
	Graduate degree	0	
	Missing	0	
Ethnicity/race	African American/Black	0	
	American Indian/Alaska Native	9 (90)	
	Caucasian/White	0	
	Other	0	
	Other (specified)	1 (10)	
	Missing	0	
Language in home	English	1 (10)	
	Other	0	
	Other (specified)	0	
	Missing	0	
Marital status	Single	4 (40)	
	Married or living with partner	4 (40)	
	Divorced or separated	0	
	Widowed	2 (20)	
	Missing	0	
Children	Yes	9 (90)	
	No	1 (10)	
	Missing	0	
Employment	Yes	8 (80)	
	No	2 (20)	
	Missing	0	
Family income	Less than \$10,000	5 (50)	
	\$10,000-\$19,999	2 (20)	
	\$20,000-\$29,999	2 (20)	
	\$30,000-\$39,999	1 (10)	
	\$40,000-\$49,999	0	
	\$50,000-\$59,999	0	
	\$60,000-\$69,999	0	
	\$70,000-\$79,999	0	
	\$80,000-\$89,999	0	
	\$90,000-\$99,999	0	
	\$100,000 or more	0	
	Missing	0	

## RESULTS OF ANALYSIS

Executive summary of top concerns and topics of discussion

(Report top concerns; include notable findings reported as prominent by project staff.)

- Concern about the U.S. government withholding information from the public regarding the real severity of an event.
- Tribal officials will be more trustworthy than the Federal or local government to convey information during an event.
- Fatalism about the inability to escape a BT event.
- Desire for more information.

### Results of qualitative analysis, by conceptual domain:

#### Pre-event knowledge

*What is participants' current awareness of the CAS, precautions, and different threats?*

(Summarize general responses to knowledge questions about CAS, self-protection actions; different threats; include typical supportive quotes.)

- The specific meanings of the CAS are unknown.
- Actions related to different color levels are not understood.
- Quotes: (p.1)...No (the color code doesn't change my behaviors because) if it (a BT event) happens, it happens.  
(p.3)...And then what exactly are we supposed to do? I mean they're telling...okay yellow here, red here, and orange here. Okay, what do we do?

#### Response to hypothetical attack

*How do participants respond emotionally to a suspected or actual emergency?*

- Fatalistic belief that nothing can be done that would substantially prepare one for a BT attack, consequently no real need to worry.
- Panic would ensue as a result of hearing news of a BT event.
- Worry about children's safety.
- Quotes: (p.17)...In biological warfare, you might as well kiss yourself goodbye.  
(p.17)...I would panic. Because the first thing I would think of is what am I going to do with the kids? Where am I going to put them? Where am I going to take them?)

*What do participants want to know in the event of an emergency?*

- Specific information on its effective distance from its source, if it's airborne.
- Can it be escaped by moving away from one's current location.
- Want definitive information that a specific BT event has actually occurred.
- Quotes: (p.19)...the striking distance, how far it spreads, if it's airborne, if it will hit the atmosphere...things of that nature.  
(p.20)...cause if you can't run from it, why go anywhere.

(p.20)...I mean why get wrapped up in it, get in a panic, and get out there with 1000 other people that are driving 100 miles an hour, and get killed and it just so happens that it don't happen.

*Where do participants seek information in the event of an emergency and why?*

(Summarize participants' information seeking strategies and justifications.)

- Local officials: police, firefighters.

**What are participants' perceptions about government and preparedness?**

(Summarize participants' perceptions about government.)

- Distrust of Federal and State officials
- Trust placed in tribal officials

*What are participants' perceptions about the role of the media?*

(Summarize participants' perceptions about media.)

- Believe that media gives incomplete and inaccurate information.
- Distrust of national television.
- Quotes: (p.34)...television is a good example of that. Because we're not getting the maximum truth that we should be getting. A lot of news people are saying the same thing (over and over, and similar content from one outlet to another).

*What are other participants' perceptions of interest?*

(Summarize other participant comments of note?)

#### Materials pre-test response

*How well do preliminary message materials address information needs?*

- Participants consider it incurable.
- Participants consider it preventable.
- Participants consider it non-contagious.
- Quotes: (p.35...It looks like it's not...contagious. You can't catch it from someone else. (p. 34...It's not curable) (p. 34...Well, you could prevent it if you knew it was there, you know.)

*What are unmet information needs?*

- Duration of the symptoms.
- Need more detail.
- Quotes: (p.35...How long do the effects last?) (p.36...You know it's just a general outline, nothing really specific...).

*How do participants respond emotionally to preliminary message materials?*

- Generally, improved sense of security knowing that facts are available.
- Quotes: (p. 39...It gives yo a little bit of security knowing that there is something out there, you know, you can get the information if you need it.).

*How credible are the preliminary message materials?*

- Participants considered the material credible and based hypothetical actions on the fact sheet.
- However, there was concern that bogus fact sheets may be used by terrorists as a mis-information weapon.
- Quotes: (p.36...You would boil your water and cook everything to a high level, you know, a boiling point.”  
(p.36...Get medical attention.)  
(p. 36...Clean everything with bleach water.)  
(p. 40...Yeah, terrorists would give you false information if they could.)

*How successful are materials in fostering self-efficacy?*

- Participants would seek medical attention if they perceived the symptoms found on the fact sheets.
- Participants would try to reconstruct their food intake and place of food ingestion in an effort to help trace the source of the contamination.
- Quotes: (p.37...And the sooner you knew you had it, you know in the food or...you got medical attention, the better you would be.)  
(p. 37...Trying to figure out what glass of water you had the last time, or what glass of milk that you drank the last time or ...that sort of thing. Trying to get that information, and then because the doctor is going to ask you how long have you had it?)  
(p. 38...Now if there was an infection here in Coalgate, I’d go back to my resource page right here, and check it out.)  
(p. 41...they tell you to what degree to cook your food, to make sure, you know, and like the bleach, it says ten parts bleach...or ten parts water, one part bleach to clean up yourself and so forth.)

*What are participants’ recommendations for improving the materials?*

- Participants wanted more detailed information noting that some facts were omitted.
- Participants wanted an “800” number on the fact sheets in order to get more information.
- Quotes: (p. 40...There’s seven different types of toxins, and they only tell you about four that are human...that causes illness in humans...)  
(p. 44...I think like it says, botulism affects your nervous system. If there’s ...would you specify exactly what it does, a lot of people would be more willing to take precautions against, you know, the affects of it, if they knew exactly what the affects were.)

*What are other participants’ recommendations for preparedness?*

None.

**SOUTHWEST CENTER FOR PRE-EVENT MESSAGE DEVELOPMENT**

**Summary Report**

**Population: First Responders**

**Agent: Botulism**

Region: Oklahoma

Focus group date: 8/27/03

Intercoder reliability: %

Prepared by the Department of Health Promotion Sciences  
University of Oklahoma College of Public Health  
Report date: August 29, 2003

## GROUP CHARACTERISTICS

The focus group was held in Oklahoma City, Oklahoma, at the EMSA headquarters.

Demographics of the group are presented in Table 1.

Characteristic	Category	N (%)	Mean/SD
Age	Missing	9 (100.0)	38.44/9.57
		0	
Sex	Male	6 (66.7)	
	Female	3 (33.3)	
	Missing	0	
Education	Less than high school	0	
	Some high school	0	
	High school diploma or GED	0	
	Some college	4 (44.4)	
	College degree	5 (55.6)	
	Graduate degree	0	
	Missing	0	
Ethnicity/race	African American/Black	0	
	American Indian/Alaska Native	0	
	Caucasian/White	9 (100.0)	
	Other	0	
	Other (specified)	0	
	Missing	0	
Language in home	English	9 (100.0)	
	Other	0	
	Other (specified)	0	
	Missing	0	
Marital status	Single	0	
	Married or living with partner	8 (88.9)	
	Divorced or separated	1 (11.1)	
	Widowed	0	
	Missing	0	
Children	Yes	9 (100.0)	
	No	0	
	Missing	0	
Employment	Yes	9 (100.0)	
	No	0	
	Missing	0	
Family income	Less than \$10,000	0	
	\$10,000-\$19,999	0	
	\$20,000-\$29,999	1 (11.1)	
	\$30,000-\$39,999	0	
	\$40,000-\$49,999	2 (22.2)	
	\$50,000-\$59,999	2 (22.2)	
	\$60,000-\$69,999	0	
	\$70,000-\$79,999	3 (33.3)	
	\$80,000-\$89,999	0	
	\$90,000-\$99,999	0	
	\$100,000 or more	1 (11.1)	
	Missing	0	

## RESULTS OF ANALYSIS

## **Results of qualitative analysis, by conceptual domain**

***NOTE: THIS IS PRELIMINARY INFORMATION TAKEN FROM NOTES SINCE TAPE TRANSCRIPTIONS ARE NOT YET AVAILABLE.***

Executive summary of top concerns and topics of discussion

- Where, when, who, and what.
- How to protect themselves.
- How to protect their families.
- Education of the public
- The need for the development of a response plan.
- The need for development of procedure manuals.
- Lack of trust in the credibility of government information.
- Public education materials were thought to be excellent.

## **Results of qualitative analysis, by conceptual domain:**

### **Pre-event knowledge**

*What is participants' current awareness of the CAS, precautions, and different threats?*

- Participants were very knowledgeable about the CAS and the various types of terrorist threats.

### **Response to hypothetical attack**

*How do participants respond emotionally to a suspected or actual emergency?*

- Professional duties are paramount.
- Participants would seek specific facts in order to take action. More information can be gained at the workplace.
- Protection of their own family
- Expressed concern about public mass hysteria

*What do participants want to know in the event of an emergency?*

- Signs and symptoms of botulism.
- How to educate the public.
- What type of chemical?
- Protection of self and family.
- Contagion level.
- Protocols for transportation and hospital admission of persons who are contaminated

*Where do participants seek information in the event of an emergency and why?*

- CDC
- Government agencies

- The EMSA Administration

**What are participants' perceptions about government and preparedness?**

- Participants felt that information would be withheld.
- Paramedics are not supplied with terrorism information.
- Participants felt that they do not receive enough medical information regarding specific threats.
- Public education is needed.
- It was felt that the US borders are too loose.
- Those paramedics who had seen homes of persons engaged in suspicious activities (maps, munitions, etc) were reported upon, but were not believed.
- Extensive cooperation is needed between the agencies.
- Additional background checks on persons are needed.

*What are participants' perceptions about the role of the media?*

- Lack of trust in the media, "they blow everything out of proportion."

*What are other participants' perceptions of interest?*

- Participants stated that paramedics did not receive the small pox vaccine and questions were raised about this.
- The need for symptom surveillance was cited.

Materials pre-test response

*How well do preliminary message materials address information needs?*

- Participants thought the materials were very straightforward.
- The materials may decrease hysteria, and make the public feel more secure.

*What are unmet information needs?*

- Information regarding spread (it is not person to person).
- How it is being disseminated.

*How do participants respond emotionally to preliminary message materials?*

- Informed.
- Relieved.
- No anxiety.

*How credible are the preliminary message materials?*

- Answers many questions.
- Participants felt the materials were very believable.
- There is a need to have these on all subjects.

*How successful are materials in fostering self-efficacy?*

- Materials supply action steps regarding precautions.
- Answers questions the public asks.

- Materials will have a calming effect on the public.
- Materials will help to keep the public safe.
- The public will be able to carry out recommended actions.

*What are participants' recommendations for improving the materials?*

- Keep it simple.
- Change the order and out the action steps first.
- Repeat the education regularly.
- Keep it repetitive.
- Saturate the public with the simple information.
- Include schools and media, public service announcements, etc.
- Use internet pop-outs.
- Education for the illiterate needs to be addressed.

*What are other participants' recommendations for preparedness?*

- Supply professionals with education and procedure manuals for use during terrorist events.
- The need for response planning.
- Hotline for the public to eliminate calling burden.
- Public and professional education.

## Appendix E: Overall Project Demographics

DEMOGRAPHIC DATA FOR 54 FOCUS GROUPS <sup>1</sup> (N=520)				
Characteristic	Category	N	(%)	Mean/SD
Age		486	93%	43.66/16.14
	Missing	34	7%	
Sex	Male	222	43%	
	Female	297	57%	
	Missing	1	<1%	
Education	Less than high school	42	8%	
	Some high school	39	8%	
	High school diploma or GED	85	16%	
	Some college	132	25%	
	College degree	104	20%	
	Graduate degree	59	11%	
	Missing	59	11%	
Ethnicity/race	African American/Black	107	21%	
	American Indian/Alaska Native	45	9%	
	Asian/Pacific Islander	64	12%	
	Caucasian/White	144	28%	
	Latino/Hispanic	133	26%	
	Other	13	2%	
	Missing	14	3%	
Language in home	English	361	69%	
	Spanish	90	17%	
	Bilingual/English & Other	31	6&	
	Other	35	7%	
	Missing	3	1%	
Marital status	Single	133	26%	
	Married or living with partner	242	46%	
	Divorced or separated	56	11%	
	Widowed	34	6%	
	Missing	55	11%	
Children	Yes	338	65%	
	No	151	29%	
	Missing	31	6%	
Employment	Yes	311	60%	
	No	174	33%	
	Missing	35	7%	
Family income	Less than \$10,000	75	14%	
	\$10,000-\$19,999	87	17%	
	\$20,000-\$29,999	58	11%	
	\$30,000-\$39,999	40	8%	
	\$40,000-\$49,999	32	6%	
	\$50,000-\$59,999	29	6%	
	\$60,000-\$69,999	28	5%	
	\$70,000-\$79,999	11	2%	
	\$80,000-\$89,999	10	2%	
	\$90,000-\$99,999	13	2%	
	\$100,000 or more	32	6%	
	Missing	105	20%	
<sup>1</sup> The rural Hispanic botulism group is not included in these numbers as the focus group transcript was not available for inclusion in the analysis.				

## Appendix F: Coding Guides

### Appendix F1: Public Coding Guide

Pre-event Knowledge				Notes
Parent Code	Definition	Child Code	Definition	
CAS	Color Alert System	CAS.K CAS.A	has knowledge of CAS attitude regarding CAS	
PSA	protection of self from attack	PSA.SIP PSA.GI PSA.GM PSA.DT PSA.O	shelter in place get information gas mask duct tape other	
MBT	meaning of BT categories	MBT.C MBT.N MBT.B	meanings of chemical attacks meanings of nuclear attacks meanings of biological attacks	
Scenario 1 Parent Code	non-specific agent Definition	Child Code	Definition	Notes
<b>Emotional Response</b>				
ER.NSA	general emotional response	ER.NSA.FL	what participants feel	
<b>Knowledge</b>				
K.NSA	what they know/believe	K.NSA.KB	what participants believe	
<b>Actions</b>				
A.NSA	general actions	A.NSA.DO	what participants would do	
<b>Information Seeking</b>				
IS.NSA	general info seeking	IS.NSA.WHA IS.NSA.WHR IS.NSA.PFR	what info wanted by respondents where would they get info info preference (their credible source)	
Scenario 2 Parent Code	symptoms Definition	Child Code	Definition	Notes
<b>Emotional Response</b>				
ER.SYM	general emotional response	ER.SYM.FL	what participants feel	
<b>Knowledge</b>				
K.SYM	what they know/believe	K.SYM.KB	what participants believe	
<b>Actions</b>				
A.SYM	general actions	A.SYM.DO	what participants would do	
<b>Information Seeking</b>				

IS.SYM	general info seeking	IS.SYM.WHA	what info wanted by respondents
		IS.SYM.WHR	where would they get info
		IS.SYM.PFR	info preference (their credible source)

Scenario 3	agent, symptoms, and response			Notes
Parent Code	Definition	Child Code	Definition	

#### Emotional Response

ER.ASR	general emotional response	ER.ASR.FL	what participants feel
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#### Knowledge

K.ASR	what they know/believe	K.ASR.KB	what participants believe
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#### Actions

A.ASR	general actions	A.ASR.DO	what participants would do
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#### Information Seeking

IS.ASR	general info seeking	IS.ASR.WHA	what info wanted by respondents
		IS.ASR.WHR	where would they get info
		IS.ASR.PFR	info preference (their credible source)

Scenario 4	release of information			Notes
Parent Code	Definition	Child Code	Definition	

RI.COM	comprehension of materials	RI.COM.KL	what was learned or main points
		RI.COM.AIN	add'l information needed
		RI.COM.R	understanding of the risk an event
		RI.COM.WHR	knowledge of where to turn for info

RI.ER	emotional response	RI.ER.MFL	how materials made participants feel
		RI.ER.FLM	how materials could be changed to trigger fewer emotions

RI.CR	credibility (believability)	RI.CR.PM	credibility of print materials
		RI.CR.ICR	how can credibility be increased?
		RI.CR.DC	anything participants feel was not disclosed?

RI.SE	self-efficacy/outcome expectation	RI.SE.FOL	ability to follow recommended actions
		RI.SE.OE	belief that recommended actions will lead to a good outcome

Improvement Parent Code	Definition	Child Code	Definition	Notes
RCI		RCI.PM RCI.OM	print materials (specific to fact sheets passed out during focus groups) other methods: dissemination and channels of information	**with the exception of RCI.PM, Improvement codes may be used throughout
Perceptions of Government				Notes
Parent Code	Definition	Child Code	Definition	
RG		RG.GA RG.TC RG.GR	what government agencies are mentioned trust/credibility of elected officials/government representatives response of government systems	**Perceptions of Gov't codes may be used throughout
Perceptions of Emergency Response Systems and Media				Notes
Parent Code	Definition	Child Code	Definition	
PER		PER.RFP PER.RHH PER.M	perceptions of first responders (police, fire, EMT) perceptions of health and human service providers perceptions of media	**Perceptions of ERS codes may be used throughout
Miscellaneous				Notes
Parent Code	Definition	Child Code	Definition	
GK	general knowledge which is non-specific to presented scenarios or materials			**Knowledge parent code may be used throughout entire transcript if Scenario specific knowledge codes don't apply**

Appendix F2: Coding Guide – Professional Groups

**CODE TERMS**

**FOR**

**PRE-EVENT MESSAGE ANALYSIS**

*Professional Groups*

**11 August 03**

DOMAIN: PRE-EVENT KNOWLEDGE

PARENT CODE

- **Biological Weapons** **CODE: BW**

*CHILD CODES*

- **Xxxxx (Responses)** **CODE: BW.**

PARENT CODE

- **Understanding** **CODE: U**

CHILD CODES

- **Has scientific understanding** **CODE: USY**
- **Does not have scientific understanding** **CODE: USN**

PARENT CODE

- **Public Information Needs** **CODE: PUIN**

*CHILD CODES*

- **Xxxxx (Needs)**

DOMAIN: INFORMATION NEEDS

PARENT CODE

- **Professional Knowledge Needs** **CODE: PRKN**

*CHILD CODES*

- Xxxxxx (Needs)

**PARENT CODE**

- Public Knowledge Needs **CODE: PUKN**

**CHILD CODES**

- Xxxxxx (Needs) **CODE: PUKN.**

**PARENT CODE**

- Diverse Population Information Needs **CODE: DPKN**

**CHILD CODES**

- Xxxxxx (Needs) **CODE: DPKN**

**PARENT CODE**

- Response Information **CODE: RIN**

**CHILD CODES**

- xxxx (Needs) **CODE: RIN.**

**DOMAIN: INFORMATION SEEKING BEHAVIOR**

**PARENT CODE**

- Professional Information **CODE: PRI**

**CHILD CODES**

- Where **CODE: PRI.W**

**PARENT CODE**

- Public Information **CODE: PI**

**CHILD CODES**

- Where **CODE: PI.W**

**DOMAIN: INFORMATION DISSEMINATION**

**PARENT CODE**

- Responsibility **CODE: RESP**

**CHILD CODES**

- xxxx (Agencies) **CODE: RESP.AG**

**PARENT CODE**

- Plan for Information Dissemination **CODE: PID**

**CHILD CODES**

○ Actions	CODE:	PID.ACT
<b>PARENT CODE</b>		
• Message Supplementation	CODE:	MS
<i>CHILD CODES</i>		
○ Xxxxx	CODE:	MS.
<b>PARENT CODE</b>		
• Additional Needs	CODE:	AN
<i>CHILD CODES</i>		
○ Xxxxx	CODE:	AN.

### **DOMAIN: COMPREHENSION OF MATERIALS**

<b>PARENT CODE</b>		
• Main Points	CODE:	MP
<i>CHILD CODES</i>		
○ Xxxxx	CODE:	MP.
<b>PARENT CODE</b>		
• Questions	CODE:	Q
<i>CHILD CODES</i>		
○ Xxxxx	CODE:	Q.
<b>PARENT CODE</b>		
• Message Clarity	CODE:	MC
<i>CHILD CODES</i>		
○ Xxxxx (Specific parts)	CODE:	MC.
<b>PARENT CODE</b>		
• Actions	CODE:	ACT
<i>CHILD CODES</i>		
○ Xxxxx (Specific actions)	CODE:	ACT.
<b>PARENT CODE</b>		
• Information Needs	CODE:	IN
<i>CHILD CODES</i>		
○ Xxxxx (Information needed)	CODE:	IN.

## **DOMAIN: EMOTIONAL RESPONSE**

### **PARENT CODE**

- Response to Attack

**CODE: RTA**

#### ***CHILD CODES***

- Xxxxx

**CODE: RTA.**

### **PARENT CODE**

- Response to Fact Sheet

**CODE: RFS**

#### ***CHILD CODES***

- Xxxxx

**CODE: RFS.**

### **PARENT CODE**

- Reasons for Responses

**CODE: RR**

#### ***CHILD CODES***

- Xxxxx

**CODE: RR.**

### **PARENT CODE**

- Recommended Changes

**CODE: RC**

#### ***CHILD CODES***

- Xxxxx

**CODE: RC.**

### **PARENT CODE**

- Emotions of Public

**CODE: EP**

#### ***CHILD CODES***

- Increased security
- Increased fear
- Graphics

**CODE: EP.IS**

**CODE: EP.IF**

**CODE: EP.G**

### **PARENT CODE**

- Message Dissemination

**CODE: MD**

#### ***CHILD CODES***

- TV
- Radio
- Xxxxx

**CODE: MD.TV**

**CODE: MD.R**

**CODE: MD.**

## **DOMAIN: BELIEVABILITY**

### **PARENT CODE**

- **Credibility**

**CODE: CRD**

#### ***CHILD CODES***

- **Believable**
- **Not believable**

**CODE: CRD.B**  
**CODE: CRD.NB**

### **PARENT CODE**

- **Increasing Believability**

**CODE: IB**

#### ***CHILD CODES***

- **Xxxxx (Recommendations)**

**CODE: IB.**

### **PARENT CODE**

- **Use of Information**

**CODE: UI**

#### ***CHILD CODES***

- **How**
- **Where**
- **Xxxxx**

**CODE: UI.HOW**  
**CODE: UI.WH**  
**CODE: UI.**

### **PARENT CODE**

- **Usefulness of Information**

**CODE: UFI**

#### ***CHILD CODES***

- **Realistic advice**
- **Unrealistic advice**

**CODE: UFI.RA**  
**CODE: UFI.URA**

### **PARENT CODE**

- **Public Credibility**

**CODE: PC**

#### ***CHILD CODES***

- **Believable**
- **Not believable**

**CODE: PC.B**  
**CODE: PC.NB**

**DOMAIN: SELF-EFFICACY, RESPONSE EFFICACY AND  
BEHAVIORAL INTENT**

**PARENT CODE**

- Effectiveness of Actions **CODE: EA**

***CHILD CODES***

- Effective **CODE: EA.E**
- Ineffective **CODE: EA.IE**
- Why **CODE: EA.W**
- Why not **CODE: EA.WN**

**PARENT CODE**

- Public Efficacy **CODE: PE**

***CHILD CODES***

- Yes **CODE: PE.Y**
- No **CODE: PE.N**

**PARENT CODE**

- Use of Message **CODE: UM**

***CHILD CODE***

- Yes **CODE: UM.Y**
- No **CODE: UM.N**

**PARENT CODE**

- Incorporation of Message **CODE: IM**

***CHILD CODES***

- Xxxxx ( How) **CODE: IM.**

**DOMAIN: RECOMMENDATIONS FOR IMPROVEMENT**

**PARENT CODES**

- Print Materials **CODE: PRM**
- Other Materials **CODE: OM**